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AUTHOR Lacy, Henry Heston
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ABSTRACT

This curriculum guide for a 1-semester or 1-year course in photography promotes exploratory study of the following areas: (1) color processing; (2) technical applications in black and white; (3) special effects in lighting techniques; and (4) career opportunities in commercial photography. The guide contains a course outline, competencies (task lists), student competency records, and management sheets. Management sheets, which serve as lesson outlines used for 1 or more days, include the following: the introduction, an enabling objective, a performance objective, an equipment and supplies list, a performance standard, suggested references for teachers and students, activities, and evaluation criteria. Appendixes have the following contents: a course outline; definitions of terms; a tool and equipment list; a supply list; a facility list; and a bibliography listing 8 books, 8 periodicals, 15 pamphlets, 13 movies or slide programs, and 7 videotapes. (KC)

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CURRICULUM GUIDE FOR TECHNOLOGY EDUCATION PHOTOGRAPHIC PROCESSES

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MR. HENRY HESTON LACY, PROJECT DIRECTOR/WRITER
OFFICE OF VOCATIONAL EDUCATION

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Brand names, e.g., Kodak, were used because of the universal availability of supplies so listed. Where available, equivalent supplies can be used. Mention does not constitute a recommendation or endorsement by the author or the publisher.

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Consultant

Jerry Eades, Industrial Education Unit, Program Services Division, Office of Vocational Education, Kentucky Department of Education, Frankfort, Kentucky.

Steering Committee

Tom Osborne, Teacher of Industrial Education, Bath County High School, Owingsville, Kentucky.

George Martin, Teacher of Industrial Education, Marion County High School, Lebanon, Kentucky.

John Zinner, Teacher of Industrial Education, Danville High School, Danville, Kentucky.

Larry Parker, Teacher of Industrial Education, Simon Kenton High School, Independence, Kentucky.

Jack Moreland, Teacher of Industrial Education, Lafayette High School, Lexington, Kentucky.

Finley Willis, Owner/ Manager, Capital Camera, Inc., Frankfort, Kentucky.

Field Test Survey Teachers

John Zinner, Teacher of Industrial Education, Danville High School, Danville, Kentucky.

Larry Parker, Teacher of Industrial Education, Simon Kenton High School, Independence, Kentucky.

Field Test Survey Teachers (continued)

Jack Moreland, Teacher of Industrial Education, Lafayette High School, Lexington, Kentucky.

Editors

Patsy Via, Office of Vocational Education

Jim Brown, Office of Vocational Education

Support

Marilyn M. Thurman, Word Processor Operator Principal

INTRODUCTION

This competency based instructional guide for Photographic Processes was designed for guiding and assisting the teacher through the course. The course is an exploratory study of the areas of (1) color processing, (2) technical applications in black and white, (3) special effects in lighting techniques, and (4) career opportunities in commercial photography. Also important to the course content is a study of how current technological advances affect photography and how the photographic industry functions in today's society. The course is offered for 18 or 36 weeks at the secondary level.

The overall objectives of the course are:

- Learn the history of photography
- Explore careers of photography
- Learn the principles and theory of photographic processes
- Become skillful in using cameras, film, paper, and accessories
- Become skillful in black and white/color film development techniques
- Learn principles of black and white/color printing
- Become skillful in photo composition techniques
- Become technologically literate of photographic processes
- Become a knowledgeable consumer of photographic products and supplies
- Learn to solve problems in photography
- Learn academic skills as related to photographic processes

Photographic Processes is a communication-type course offered under Technology Education Level II programs intended for students in grades 9-12. Students, male

and female, may find this course beneficial if they are interested in pursuing careers in business and industry or using these fundamental skills in furthering their education in a vocational/technical school or college.

The guide consists of a course outline identifying the areas to be covered and the amount of time suggested for each area; a competency list with competencies placed in sequential order of instruction under their respective duty area; a student competency record used for rating a student's competency level; management sheets that identify the performance objective, suggested time to accomplish the competency, references, instructional materials, and activities; definitions of terms; tool and equipment list; supply list; bibliography; and a drawing of a suggested facility layout. It is designed so that the material can be used for both 18- and 36-week courses.

The competency list, management sheets, tool and equipment list, and supply list have asterisks (*) placed in front of items to be used for an 18-week course. All items are used for the 36-week course. The suggested time to accomplish each competency is identified by the maximum number of class periods for each 18-week and 36-week offering. The smaller number of class periods indicates the 18-week suggested time (90 days), the larger number of class periods indicates the 36-week suggested time (180 days). On some management sheets, additional activities were not included for the 36-week course. In this case, it will be the teacher's responsibility to increase or extend the available activities to meet the suggested 36-week time for that particular task.

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The duty area "Introduction To Motion Picture Photography" was included for schools with motion picture equipment on hand. If the equipment is not on hand, we do not suggest purchasing motion picture products; modern video equipment is recommended instead. If this motion picture duty area is not used, the additional class time accumulated may be used for testing, make-up, etc.

The main intent of the guide is to provide teachers with guidelines, including suggestions and information to assist in teaching. However, teachers should feel free to provide supplemental information and activities to enhance the mastery of competencies. Teachers may need to make substitutions or modifications of activities if equipment, materials, or funds are not available. Four or five copies of the suggested references for students may be purchased for the students to share instead of purchasing multiple copies. The length of time for some activities may be insufficient due to various reasons and will need to be altered. Teachers will be responsible for developing handout materials such as information sheets, instruction sheets, and worksheets. In addition to evaluating the students' mastery of competencies, the teacher will need to develop tests to evaluate student learning throughout the course. Some reading assignments, videos, slides, and films are repeated on various management sheets but usually reading or seeing the assignment one time is sufficient. This additional time can be used for review, extra discussion, testing, etc. The first few rolls of film shot by the students may be developed at a commercial processor until students learn to develop their film. The tasks covering processing could be taught at an earlier time so students can develop their own film.

The guide provides for a limited amount of safety instruction for students, but does not include safety for all areas, such as general safety and recurring safety hazards. Therefore, it is the responsibility of the instructor to implement and oversee safety in all required areas.

Student organizations are an integral component of a technology education program. The student organization can encompass activities associated with program content, provide leadership opportunities, recognize skill development, and enrich the course through student motivation and group activities. Districts receiving vocational funding for Technology Education II programs are required to include a student organization as an integral part of the instructional program.

Finally, to fully understand the curriculum guide, it is best for the instructor to read through the entire guide, order the equipment and supplies, and practice all activities before introducing the information to the class. If a problem arises with this curriculum package, the writer can be contacted for assistance at the Office of Vocational Education, Frankfort, Kentucky.

PHOTOGRAPHIC PROCESSES

COMPETENCIES

DUTY: Orientation to Photography

*PHP-001. Describe how photographic images are created.

*PHP-002. Identify major historical developments in photography.

*PHP-003. Identify and define career opportunities in photography.

*PHP-004. Identify opportunities in photography other than careers.

*PHP-005. Identify technological advances and future trends in photography.

*PHP-006. Observe general safety rules.

DUTY: The Camera

*PHP-007. Identify and describe the basic camera types.

*PHP-008. Identify the working parts of a camera.

*PHP-009. List and describe the functions of the outer basic parts of a camera.

*PHP-010. List and describe the functions of the inner basic parts of a camera.

*PHP-011. List and describe the functions of the controls on a camera lens.

*PHP-012. Demonstrate camera handling techniques.

*PHP-013. Demonstrate loading and unloading the camera.

*PHP-014. Demonstrate camera controls through exposed negatives.

DUTY: The Film

*PHP-015. List and describe the chemical make-up of film.

*PHP-016. Describe the reaction of film to light.

*PHP-017. Identify and define film speeds and film types.

*PHP-018. Describe procedures for care of film.

DUTY: Basic Picture-Taking Techniques

*PHP-019. Identify the elements of a good photograph.

*PHP-020. Identify and describe filters and their uses.

*PHP-021. Identify and describe lighting accessories.

*PHP-022. Identify and describe the use of camera accessories.

*PHP-023. Photograph still images.

*PHP-024. Photograph action scenes.

DUTY: Advanced Picture-Taking Techniques

*PHP-025. Demonstrate studio techniques.

*PHP-026. Demonstrate in-camera multiple exposures.

*PHP-027. Demonstrate time exposures.

*PHP-028. Describe the effects obtained by using the creative controls on a camera.

*PHP-029. Identify and describe recently introduced films.

*PHP-030. Describe the differences between close-up photography, photomacrography, and photomicrography.

DUTY: Processing Black and White Film

*PHP-031. Mix photographic chemicals for processing.

*PHP-032. Load film into developing tank.

*PHP-033. Develop black and white film into negatives.

*PHP-034. Maintain a negative file.

DUTY: Printing and Processing Paper

*PHP-035. Identify and describe characteristics of print paper.

*PHP-036. Identify and describe basic enlarger parts and their use.

*PHP-037. Prepare photographic chemicals for printing.

*PHP-038. Develop a proof sheet.

*PHP-039. Produce enlargements and reductions.

*PHP-040. Control contrast using variable contrast filters.

*PHP-041. Identify and perform print manipulation techniques.

*PHP-042. Make black and white enlargements from color negatives.

DUTY: Applying Color Techniques and Procedures

*PHP-043. Mix photographic color chemicals.

*PHP-044. Develop color film into negatives or positives.

*PHP-045. Expose a test print.

*PHP-046. Process color prints.

DUTY: Finishing Prints and Transparencies

*PHP-047. Retouch negatives and correct prints.

*PHP-048. Mount slides.

*PHP-049. Mount finished prints.

DUTY: Introduction to Video Photography

PHP-050. Identify and discuss types of video equipment.

PHP-051. Identify and describe the basic parts of a video camera.

PHP-052. Explain basic video camera handling.

PHP-053. Develop a storyboard.

PHP-054. Shoot a video tape production.

PHP-055. Edit film.

DUTY: Introduction to Motion Picture Photography

PHP-056. Identify and describe the parts of an 8mm, 16mm, Super 8mm movie camera.

PHP-057. Explain basic motion picture camera handling.

PHP-058. Develop a storyboard to film a movie.

PHP-059. Demonstrate filmmaking techniques using movie camera and equipment.

PHP-060. Produce an animated film.

*The competencies marked with asterisks must be taught in an 18-week course. (All competencies must be taught for a 36-week course.)

STUDENT COMPETENCY RECORD

School _____
Student _____

School Year _____
Instructor's Name _____
Course Title Photographic Processes
Classification _____

Student Address _____
_____ _____
Zip

Comments _____
_____
_____
_____
_____

The student should be evaluated according to the performance ratings listed. Indicate on this form the numeric rating of the student's performance for each item.
(1) Competency in Process
(2) Competency Performed with Close Supervision
(3) Competency Performed with Limited Supervision
(4) Competency Performed without Supervision

COMPETENCIES

	DUTY: Orientation to Photography
*001	Describe how photographic images are created.
*002	Identify major historical developments in photography.
*003	Identify and define career opportunities in photography.
*004	Identify opportunities in photography other than careers.
*005	Identify technological advances and future trends in photography.
*006	Observe general safety rules.
	DUTY: The Camera
*007	Identify and describe the basic camera types.
*008	Identify the working parts of a camera.
*009	List and describe the functions of the outer basic parts of a camera.
*010	List and describe the functions of the inner basic parts of a camera.
*011	List and describe the functions of the controls on a camera.
*012	Demonstrate camera handling techniques.
*013	Demonstrate loading and unloading the camera.
*014	Demonstrate camera controls through exposed negatives.
	DUTY: The Film
*015	List and describe the chemical make-up of film.
*016	Describe the reaction of film to light.
*017	Identify and define film speeds and film types.
*018	Describe procedures for care of film.
	DUTY: Basic Picture-Taking Techniques
*019	Identify the elements of a good photograph.
*020	Identify and describe filters and their uses.
*021	Identify and describe lighting accessories.
*022	Identify and describe the use of camera accessories.
*023	Photograph still images.
*024	Photograph action scenes.
	DUTY: Advanced Picture-Taking Techniques
*025	Demonstrate studio techniques.

*026	Demonstrate in-camera multiple exposures.
*027	Demonstrate time exposures.
*028	Describe the effects obtained by using the creative controls on a camera.
*029	Identify and describe recently introduced films.
*030	Describe the differences between close-up photography, photomacrography, and photomicrography.
	DUTY: Processing Black and White Film
*031	Mix photographic chemicals for processing.
*032	Load film into developing tank.
*033	Develop black and white film into negatives.
*034	Maintain a negative file.
	DUTY: Printing and Processing Paper
*035	Identify and describe characteristics of print paper.
*036	Identify and describe basic enlarger parts and their use.
*037	Prepare photographic chemicals for printing.
*038	Develop a proof sheet.
*039	Produce enlargements and reductions.
*040	Control contrast using variable contrast filters.
*041	Identify and perform print manipulation techniques.
*042	Make black and white enlargements from color negatives.
	DUTY: Applying Color Techniques and Procedures
*043	Mix photographic color chemicals.
*044	Develop color film into negatives or positives.

*045	Expose a test print.
*046	Process color prints.
	DUTY: Finishing Prints and Transparencies
*047	Retouch negatives and correct prints.
*048	Mount slides.
*049	Mount finished prints.
	DUTY: Introduction to Video Photography
050	Identify and discuss types of video equipment.
051	Identify and describe the basic parts of a video camera.
052	Explain basic video camera handling.
053	Develop a storyboard.
054	Shoot a video tape production.
055	Edit film.
	DUTY: Introduction to Motion Picture Photography
056	Identify and describe the parts of an 8mm, 16mm, Super 8mm movie camera.
057	Explain basic motion picture camera handling.
058	Develop a storyboard to film a movie.
059	Demonstrate filmmaking techniques using movie camera and equipment.
060	Produce an animated film.

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*The competencies marked with asterisks must be taught in an 18-week course. (All competencies must be taught for a 36-week course.)

MANAGEMENT SHEETS

ORIENTATION TO PHOTOGRAPHY

PERFORMANCE OBJECTIVE: (1 class period)

* TASK/COMPETENCY-- 001. Describe how photographic images are created.

EQUIPMENT AND SUPPLIES-- None.

STANDARD OF PERFORMANCE-- Identify and describe the first breakthrough in photographic images.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 1, "History of Photography". 2. Suggested a. Essentials of Photography, "Introduction: Advancing the Art".	1. Recommended a. Exploring Photography, Unit 1, "History of Photography". 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: Constructed camera obscura.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "History of Photography" in recommended text. *2. Discuss and write on chalkboard the definition of photography and its significance. *3. Discuss the transmittal of images by light and how these images were first noticed by human. 4. Design and construct camera obscura and demonstrate its use.	*1. Read "History of Photography" in recommended text. *2. Take notes and identify significant points from the lecture. 3. Observe and assist in camera obscura activity.
* Activity must be taught for an 18-week course; and all activities must be taught for a 36-week course.	* Activity must be completed for an 18-week course; and all activities must be be completed for a 36-week course.

ORIENTATION TO PHOTOGRAPHY

PERFORMANCE OBJECTIVE: (1 class period)

* TASK/COMPETENCY-- 002. Identify major historical developments in photography.

EQUIPMENT AND SUPPLIES-- Old photography paraphernalia you can acquire and identify.

STANDARD OF PERFORMANCE-- Describe 5 important events, breakthroughs, developments and/or people.

ENABLING OBJECTIVE:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 1, "History of Photography". 2. Suggested a. None.	1. Recommended a. Exploring Photography, Unit 1, "History of Photography". 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "History of Photography" in the recommended text. *2. Discuss the major developments in photography from its beginning to present. *3. Assign students to describe 5 important events, breakthroughs, developments, and/or people. *4. Evaluate assignments and return to students.	*1. Read "History of Photography" in recommended text. *2. Take notes from discussion. *3. Describe 5 important events, breakthroughs, developments, and/or people. Submit the assignment for evaluation. *4. File returned assignment for future use.

EVALUATION CRITERIA: Identify and describe several important events, breakthroughs, developments, and people.

ORIENTATION TO PHOTOGRAPHY

PERFORMANCE OBJECTIVE: (1 class period)

* TASK/COMPETENCY-- 003. Identify and define career opportunities in photography.

EQUIPMENT AND SUPPLIES-- None.

STANDARD OF PERFORMANCE-- Identify 15 career opportunities.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 2, "Careers in Photography". 2. Suggested a. Guide To Photography, Chapter 1, "Designing Pictures". b. Guide To Photography, Chapter 13, "Ways To Grow". c. Guide To Photography, Chapter 14, "Jobs in Photography".	1. Recommended a. Exploring Photography, Unit 2, "Careers in Photography". 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Sound Slide Show, "Careers in Photography: An Expanding World", Kodak Slide/Film Programs, #0066.

2. Sound Slide Projector

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "Careers In Photography" in the recommended text.	*1. Read "Careers In Photography" in recommended text.
*2. Describe the work done by a photographer.	*2. Take notes on lecture and identify 15 career opportunities.
*3 Discuss the different career areas of photography as well as related areas.	3. Watch sound slide show, "Careers In Photography".
4. Show Kodak sound slide show, "Careers In Photography".	4. Complete written assignment and submit for evaluation.
5. May invite a guest speaker.	5. File returned assignment for future use.
6. Assign research topics or questions on photography careers.	
7. Evaluate assignment and return to student.	

ORIENTATION TO PHOTOGRAPHY

PERFORMANCE OBJECTIVE: (1 class period)

* TASK/COMPETENCY-- 004. Identify opportunities in photography other than careers.

EQUIPMENT AND SUPPLIES-- None.

STANDARD OF PERFORMANCE-- Identify 2 opportunities in photography other than careers.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. None. 2. Suggested a. Guide To Photography, Chapter 13, "Ways To Grow". b. Guide To Photography, Chapter 14, "Jobs in Photography".	1. Recommended a. None. 2. Suggested a. Guide To Photography, Chapter 13, "Ways To Grow". b. Guide To Photography, Chapter 14, "Jobs in Photography".

SELECTED INSTRUCTIONAL MATERIALS:
1. Examples of family photo albums.
2. 16MM - Sound Films, "The Way I See It", Kodak Slide/Film Programs, #0210.
3. 16MM film projector.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "Ways To Grow" in the suggested text if available or discuss photography opportunities other than careers.	*1. Read "Ways To Grow" in the suggested text if available.
2. Define "photogenic" to class.	*2. Take notes from lecture and identify 2 opportunities in photography other than careers.
3. Describe the purpose of a portfolio and show an example.	*3. Review examples provided by teacher.
4. Describe how to develop a good family album. Show an example.	4. Watch sound film "The Way I See It".
5. Show 16MM - Sound Film "The Way I See It".	*5. Enter contest(s).
*6. Discuss amateur contests.	6. May develop a photo album at a later date for pictures taken in class.

PERFORMANCE OBJECTIVE: (1 class period)

* TASK/COMPETENCY-- 005. Identify technological advances and future trends in photography.

EQUIPMENT AND SUPPLIES-- Current photographic periodicals.

STANDARD OF PERFORMANCE-- Identify 2 recent advances and 2 future trends in photography.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Current Photographic Periodicals (See Appendix for list). 2. Suggested a. None.	1. Recommended a. Current Photographic Periodicals (See Appendix for list). 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
*1. Show students current periodicals on photography. *2. Inform students of current technological advances and future trends in photography. 3. Have students select an article from periodicals and briefly summarize it in writing or present it to the class for evaluation.	*1. Summarize articles in various photography periodicals. *2. Take notes from lecture and identify 2 recent advances and 2 future trends 3. Write a summary on a current article and submit it to the instructor and/or present it to the class for evaluation.

ORIENTATION TO PHOTOGRAPHY

PERFORMANCE OBJECTIVE: (1-2 class periods)

* TASK/COMPETENCY-- 006. Observe general safety rules.

EQUIPMENT AND SUPPLIES-- Safety information sheets prepared by teacher.

STANDARD OF PERFORMANCE-- Student will demonstrate good safety practices while in class and pass a general safety test with 100% accuracy.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. None. 2. Suggested a. Guide To Photography, "Safety Reminders", Chapters 1-7 and 9-12. b. OSHA Safety Data Sheets.	1. Recommended a. None. 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS:
1. Same as in the performance objective.
2. OSHA Safety Data Sheets.
3. Copy of an accident report.
4. Safety examination developed by teacher.

ACTIVITIES:

TEACHER	STUDENT
*1. Develop and give students an information sheet showing the floor layout and equipment location of the photographic lab, accompanied by a list of safety rules which are to be observed. *2. Review safety list and point out importance of laboratory safety. Point out proper procedures to follow in case of accident. *3. Show an accident report form and discuss its use. *4. Develop and administer a safety examination. *5. Evaluate safety examination. *6. Readminister the safety test to students not making 100%. NOTE: Safety should be integrated into all phases of instruction.	*1. Observe safety practices demonstrated by the instructor from the lists on safety. *2. Take a safety examination. *3. Retake the safety test if score on test is not 100%.

PERFORMANCE OBJECTIVE: (1-2 class periods)

* TASK/COMPETENCY-- 00/. Identify and describe the basic camera types.

EQUIPMENT AND SUPPLIES-- Cameras: Single Lens Reflex, Instant, Disposable, Range Finder, Twin Lens Reflex, Disc, View, Press, Box.

STANDARD OF PERFORMANCE-- Identify 5 types of cameras and discuss pros and cons of each.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 4, " The Camera". 2. Suggested a. Guide To Photography, Chapter 2, "Getting To Know Your Camera". b. The New Joy of Photography, Part II, "Types of Cameras".	1. Recommended a. Exploring Photography, Unit 4, "The Camera". 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

2. Drawings, photographs, negatives, and diagrams of various camera types if cameras are not available.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "The Camera" in the recommended text and study the different camera types. *2. Show students different types of cameras and discuss cost and advantages/disadvantages of each. 3. Show examples of printed photos and discuss camera formats. *4. Show negative sizes 110, 135, 120, 4 x 5, and 8 x 10. *5. Assign students to identify 5 types of cameras and give pros and cons of each.	*1. Take notes from lecture. *2. Read "The Camera" in the recommended text. *3. Identify, in writing, 5 types of cameras and give pros and cons of each.

THE CAMERA

PERFORMANCE OBJECTIVE: (1-2 class periods)

* TASK/COMPETENCY-- 008. Identify the working parts of a camera.

EQUIPMENT AND SUPPLIES-- Cameras: Single Lens Reflex, Instant, Disposable, Range Finder, Twin Lens Reflex, View, Disc, Press, Box.

STANDARD OF PERFORMANCE-- Identify 7 working parts of camera.

ENABLING OBJECTIVE: Be able to identify types of cameras.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 4, "The Camera". 2. Suggested a. Guide To Photography, Chapter 2, "Getting To Know Your Camera". b. Kodak Customer Service Pamphlet, "Picture Taking in 5 Minutes", #AC-B.	1. Recommended a. Exploring Photography, Unit 4, "The Camera". 2. Suggested a. Kodak Customer Service Pamphlet, "Picture Taking in 5 Minutes".

SELECTED INSTRUCTIONAL MATERIALS:

1. Same as in the performance objective.
2. Wall Chart, "Photography - How It Works", Kodak Educational Materials, #AC-41B.
3. Sound Slide Shows, "The Camera: How It Works", Kodak Slide/Film Programs, #0013.
4. Sound Slide Projector.

ACTIVITIES:

TEACHER	STUDENT
*1. Explain and illustrate in the most basic sense how a camera works and its essential parts.	*1. Take notes on lecture.
2. Show Kodak sound slide show, "The Camera: How It Works".	2. Watch Kodak sound slide show, "The Camera: How it works".
*3. Assign students to read and study "The Camera" in the recommended text.	*3. Read and study "The Camera" in the recommended text.
*4. Have students identify 7 working parts of a camera.	*4. Identify 7 working parts of a camera and submit for an evaluation.
*5. Categorize and explain the 3 broad classifications of cameras (simple, adjustable, automatic).	5. Answer questions on camera parts. Submit for an evaluation.
6. Assign questions on camera parts.	
7. Evaluate and return assignments to students.	

PERFORMANCE OBJECTIVE: (1-2 class periods)

* TASK/COMPETENCY-- 009. List and describe the functions of the outer basic parts of a camera.

EQUIPMENT AND SUPPLIES-- Camera: Single Lens Reflex with adjustable features.

STANDARD OF PERFORMANCE-- List and describe the functions of all basic camera body parts.

ENABLING OBJECTIVE: Identify camera nomenclature.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 4, "The Camera". 2. Suggested a. Guide To Photography, Chapter 2, "Getting To Know Your Camera". b. The New Joy of Photography, Part II, "Outside a Camera".	1. Recommended a. Exploring Photography, Unit 4, "The Camera". 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS:

1. Same as in the performance objective.
2. Instruction/Owner's manual from camera manufacturers.
3. Sound Slide Show, "An Introduction", Kodak Slide/Film Programs, #0030.
4. Sound Slide Projector.

ACTIVITIES:

TEACHER	STUDENT
*1. Using the type of 35MM SLR camera available, demonstrate the outside controls of the camera.	*1. Observe demonstration of camera controls.
*2. Check out cameras to students and allow them to practice using the camera controls.	*2. Examine and use camera controls.
3. Show sound slide show "An Introduction".	3. Watch sound slide show "An Introduction".
*4. Develop an information sheet on the outside camera controls and distribute to students.	*4. Review information sheet and file for future reference.
*5. Have students to list and describe the functions of all basic camera body parts on a quiz.	*5. List and describe the functions of all basic camera body parts.

PERFORMANCE OBJECTIVE: (2-3 class periods)

* TASK/COMPETENCY-- 010. List and describe the functions of the inner basic parts of a camera.

EQUIPMENT AND SUPPLIES-- Single Lens Reflex adjustable camera.

STANDARD OF PERFORMANCE-- List and describe the functions of the inner basic parts of a camera. The basic parts should include the body and lens.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 4, "The Camera". 2. Suggested a. Guide To Photography, Chapter 2, "Getting To Know Your Camera". b. The New Joy of Photography, Part II, "Inside a Camera".	1. Recommended a. Exploring Photography, Unit 4, "The Camera". 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS:

1. Same as in the Performance Objective.
2. 35MM SLR camera.
3. Sound Slide Show, "An Introduction", Kodak Slide/Film Program, #0030.
4. Sound Slide Projector.

ACTIVITIES:

TEACHER	STUDENT
*1. Explain what the camera shutter is and how it controls the amount of light entering the camera.	*1. Take notes from lecture.
*2. Using a 35MM SLR camera, illustrate how the shutter functions.	*2. Observe teacher demonstration.
*3. List the shutter speed numbers found on most cameras and explain their meaning.	*3. Examine and manipulate aperture.
*4. Discuss the two basic types of shutters found on most cameras (Leaf/Iris - Focal Plane).	4. Read and study "The Camera" in the recommended text.
*5. Explain the function of the aperture.	5. Watch sound slide show "An Introduction".
*6. Illustrate the aperture operation with a removed camera lens.	*6. Answer questions from assignment and submit to instructor for evaluation.
*7. Explain and illustrate the SLR viewfinder.	*7. File assignment for future reference.
*8. Explain and illustrate the film advance system.	
9. Assign students to read and study "The Camera" in the recommended text.	
*10. Describe how a built-in light meter works.	
11. Show sound slide show "An Introduction".	
*12. Develop and assign questions on the above information.	
*13. Collect the assignment and evaluate. Return for future reference.	

PERFORMANCE OBJECTIVE: (1-2 class periods)

* TASK/COMPETENCY-- 011. List and describe the functions of the controls on a camera lens.

EQUIPMENT AND SUPPLIES-- Lens assortment: wide, normal, telephoto, zoom.

STANDARD OF PERFORMANCE-- Identify and explain the 2 control functions of a lens.

ENABLING OBJECTIVE: Identify controls on lens.

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 3, "Lenses". 2. Suggested a. Guide To Photography, Chapter 7, "Lenses". b. Kodak Customer Service Pamphlets, Some Questions and Answers about Camera Lenses, #AA-3. c. The New Joy of Photography, Part II, "A Camera's Lens".	1. Recommended a. Exploring Photography, Unit 3, "Lenses". 2. Suggested a. Kodak Customer Service Pamphlets, Some Questions and Answers about Camera Lenses.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

2. Sound Slide Show, "Effective Use of Lenses", Kodak Slide/Film Programs, #0057.

3. Sound Slide Projector.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read and study "Lenses" in the recommended text.	*1. Read "Lenses" in recommended text.
2. Discuss the nature of light--the basic rules of light and optics.	*2. Take notes from lecture.
3. Discuss and illustrate what makes a lens work.	*3. Observe teacher demonstrations.
*4. Describe what focal length is and how it works.	*4. Identify and explain the 2 control functions of a lens.
*5. Explain how lens opening affects depth of field.	5. Watch sound slide show "Effective Use of Lenses."
*6. Describe different lens types and how they work.	*6. Collect magazine/newspaper photos and determine type of lens used. Share and discuss with class.
7. Show sound slide show "Effective Use of Lenses".	
*8. Describe different types of lens mounts.	
*9. Demonstrate proper care of lenses and cleaning tools.	
*10. Discuss prime lens vs. zoom lens.	
*11. Have students collect magazine/ newspaper photos and determine type of lens used.	

THE CAMERA

PERFORMANCE OBJECTIVE: (1-2 class periods)

* TASK/COMPETENCY-- 012. Demonstrate camera handling techniques.

EQUIPMENT AND SUPPLIES-- SLR adjustable camera, soft brush, lens tissue, compressed air.

STANDARD OF PERFORMANCE-- Demonstrate 5 basic camera handling techniques.

ENABLING OBJECTIVE: Identify controls on camera body and lens.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 6, "How To Use a Camera". 2. Suggested a. Guide To Photography, Chapter 2, "Getting To Know Your Camera". b. The New Joy of Photography, Part II, "Accessories".	1. Recommended a. Exploring Photography, Unit 6, "How To Use a Camera". 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS:

1. Same as in the performance objective.
2. Broken filters, dented lens rings, dinged and broken equipment.
3. Video Cassette, "An Introduction", Kodak Video Exchange, #101.
4. Television and video cassette player (VHS).

ACTIVITIES:

TEACHER	STUDENT
*1. Demonstrate basic camera handling techniques: a. stance b. steady grasp c. smooth shutter release d. camera strap e. focus f. proper exposure g. composition *2. Demonstrate basic care of camera: a. clean camera parts. b. show broken filters, dented lens rings, dinged and broken equipment. c. battery failure.	*1. Observe and take notes from lecture. *2. Practice and demonstrate 5 camera handling techniques.

EVALUATION CRITERIA: The evaluation may be performed at a later date when students are taking pictures.

THE CAMERA

PERFORMANCE OBJECTIVE: (1 class period)

* TASK/COMPETENCY-- 013. Demonstrate loading and unloading the camera.

EQUIPMENT AND SUPPLIES-- Camera, film (non-useable).

STANDARD OF PERFORMANCE-- Students should have acceptable negatives after correctly loading and unloading film.

ENABLING OBJECTIVE: Knowledge of camera controls.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 6, "How To Use a Camera". 2. Suggested a. Guide To Photography, Chapter 2, "Getting To Know Your Camera". b. Kodak Customer Service Pamphlet, Loading and Handling 35MM Cameras, #AE-46.	1. Recommended a. Exploring Photography, Unit 6, "How To Use a Camera". 2. Suggested a. Kodak Customer Service Pamphlet, Loading and Handling 35MM Cameras, #AE-46.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

2. Camera loading instructions from camera manual for the type of camera you are using.

ACTIVITIES:

TEACHER	STUDENT
*1. Demonstrate how to load a roll of film into the cameras. a. Always follow specific instructions in the camera manual for the camera you have. b. Set ISO (ASA) or E.I. c. What to do if you lose the leader. d. Exposure counter. e. How far to advance film before taking first picture. f. How to be sure film is advancing. g. How to remember the number of exposures in the roll of film. *2. Demonstrate how to unload roll of film. a. Rewind and remove magazine. *3. Observe and supervise those students who feel they need individual help loading and unloading the camera.	*1. Observe demonstration and take notes. *2. Load and unload camera.

EVALUATION CRITERIA: Performance may be checked in next management sheet's evaluation (014).

PERFORMANCE OBJECTIVE: (1-2 class periods)

* TASK/COMPETENCY-- 014. Demonstrate correct use of camera controls by producing properly exposed negatives.

EQUIPMENT AND SUPPLIES-- Camera, film (100 and 400 ISO), exposure data sheet.

STANDARD OF PERFORMANCE-- Students shall have acceptable negatives after shooting a roll of film. See evaluation criteria for acceptable negative.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 6, "How To Use a Camera". 2. Suggested a. Guide To Photography, Chapter 6, "The Creative Controls: F/Stop Shutter Speed, Focus". b. Kodak Customer Service Pamphlet, How To Set Your Adjustable Camera, AC-27.	1. Recommended a. Exploring Photography, Unit 6, "How To Use a Camera." 2. Suggested a. Kodak Customer Service Pamphlet, How To Set Your Adjustable Camera, #AC-27.

SELECTED INSTRUCTIONAL MATERIALS:
1. Same as in the performance objective.
2. Sound Slide Show, "Basic Picture-Taking Techniques", Kodak Slide/Film Program, #0016.
3. Sound Slide Projector.

ACTIVITIES:

TEACHER	STUDENT
*1. Develop an exposure data sheet and hand out to students. *2. Explain to students that they are going to be given the opportunity to become further acquainted with the camera by individually exposing several frames of film and recording exposure data on the data sheet provided. *3. Explain procedure for achieving the above and organize students into groups of 3 or 4. *4. Load camera with film (100 or 400 ISO). *5. Check out groups to go out onto the school grounds or immediate area. Each student will make 2 or 3 exposures of anything they choose. *6. Oversee activity #4 until all students have completed assignment. *7. Develop film for students or have them send the film to a commercial processor. *8. Evaluate exposed negatives with each student individually.	*1. Take notes from lecture. *2. Form groups of 3 or 4. *3. Observe and/or load film into camera. *4. Expose 2 or 3 frames and record exposure data on exposure data sheet provided. *5. Inspect results (exposed negatives) with the instructor and compare with the data on the exposure sheet. NOTE: Student at this time may have film developed by a commercial processor. This will allow students to learn procedure for filling out an order form for developing their own film.

EVALUATION CRITERIA: 1. Film loaded and unloaded correctly.

2. Negative in focus.

3. Correct lighting.

4. Correct shutter speed.

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THE FILM

PERFORMANCE OBJECTIVE: (1-2 class periods)

* **TASK/COMPETENCY**-- 015. List and describe the chemical make-up of film.

EQUIPMENT AND SUPPLIES-- None.

STANDARD OF PERFORMANCE-- List and describe the 3 main layers that make up film.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 5, "Black and White Film". 2. Suggested a. Guide To Photography, Chapter 5, "Film". b. The New Joy of Photography, Part II, "Film".	1. Recommended a. Exploring Photography, Unit 5, "Black and White Film". 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS:

1. 16MM - Sound Film, "The Film/Paper Story", Kodak Slide/Film Programs, #0202.
2. Sound Slide Show, "Film: How It Works", Kodak Slide/Film Programs, #0026.
3. Sound Slide Projector.
4. 16MM Film Projector.

ACTIVITIES:

TEACHER	STUDENT
*1. Describe and illustrate chemical make-up of film and why it is sensitive to light. 2. Show either or both of Kodak's Slide/Film Programs. *3. Assign students to read and study "Black and White Film" in the recommended text. *4. Develop and assign questions on properties of film. *5. Evaluate answers to questions assigned to students. *6. Return assignment for future reference.	*1. Take notes from lecture. 2. Watch Kodak's Slide/Film Program(s). *3. Read and study "Black and White Film" in the recommended text. *4. List and describe the 3 main layers that make up film. *5. Write out answers to questions and submit to instructor for evaluation. *6. File assignment for future reference.

THE FILM

PERFORMANCE OBJECTIVE: (1-2 class periods)

* TASK/COMPETENCY-- 016. Describe the reaction of film to light.

EQUIPMENT AND SUPPLIES-- None.

STANDARD OF PERFORMANCE-- Describe in writing the reaction of film to light and include how to identify when film is overexposed and underexposed.

ENABLING OBJECTIVE: Identify chemical make-up of film.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 5, "Black and White Film". 2. Suggested a. Guide To Photography, Chapter 4, "Light". b. Essentials Of Photography, Unit 4, "Light Sensitive Materials". c. The New Joy of Photography, Part II, "Film".	1. Recommended a. Exploring Photography, Unit 5, "Black and White Film". 2. Suggested None.

SELECTED INSTRUCTIONAL MATERIALS:

1. 16MM - Sound Film, "The Film/Paper Story", Kodak Slide/Film Programs, #0202.
2. 16MM Sound Projector.
3. Negatives that are properly exposed, over-exposed, underexposed.
4. Film.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "Black and White Film" in the recommended text. *2. Show 16MM - Sound Film "The Film/ Paper Story". *3. Discuss the nature of light and what happens when light and an emulsion interact. a. Silver halide crystals absorb light energy. b. Latent image formed. c. Metallic silver formed. d. Sensitized sites highly developable. *4. Illustrate with examples of properly exposed, overexposed, and underexposed negatives. *5. Develop and assign questions on the reaction of film to light. *6. Collect and evaluate assignment. *7. Return for future reference.	*1. Read "Black and White Film" in the recommended text. *2. Describe in writing the reaction of film to light and include how to identify when film is overexposed and underexposed. *3. Watch film "The Film/Paper Story". *4. Observe and take notes from lecture and demonstration. *5. Answer questions assigned and submit for an evaluation. *6. File assignment for future reference.

PERFORMANCE OBJECTIVE: (1-2 class periods)

* TASK/COMPETENCY-- 017. Identify and define film speed and film types.

EQUIPMENT AND SUPPLIES-- Samples of film containers with instruction sheets.

STANDARD OF PERFORMANCE-- Identify and select proper film for a given job.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 5, "Black and White Film". 2. Suggested a. Guide To Photography, Chapter 5, "Film". b. Kodak Customer Service Pamphlet, Kodak Black and White Films for General Picture Taking, #AE-3. c. Kodak Customer Service Pamphlet, Kodak Color Films for Still Cameras, #AE-41. d. The New Joy of Photography, Part II, "Film".	1. Recommended a. Exploring Photography, Unit 5, "Black and White Film". 2. Suggested a. Kodak Customer Service Pamphlet, Kodak Black and White Films for General Picture Taking, #AF-41. b. Kodak Customer Service Pamphlet, Kodak Color Films for Still Cameras, #AE-41.

SELECTED INSTRUCTIONAL MATERIALS:
1. Same as in the performance objective.
2. Video Cassette, "Photographers and the Films They Choose", Kodak Video Exchange, #108.
3. Television and Video Cassette Player (VHS).

ACTIVITIES:

TEACHER	STUDENT
*1. Show students different sizes and modes in which film is packaged.	*1. Observe and take notes from lecture and demonstration.
*2. Describe how grain size of the silver bromide in film emulsion determines sensitivity to light. Illustrate with enlarged prints made from different speeds of film.	2. Watch video cassette, "Photographers and the Films They Choose".
*3. Discuss ISO/E.I. rating system for classifying film speed. List the film speeds and relate them to the camera controls.	*3. Read and study pertinent information in "Black and White Film" in the recommended text.
*4. Discuss and illustrate, with examples, the many different 35MM films available and how to select the proper one for a particular job.	4. Answer assigned questions on using proper film speeds and types for assignments and submit for evaluation.
5. Show Video Cassette, "Photographers and the Films They Choose".	5. File assignment for future reference.
*6. Have students read and study pertinent information in "Black and White Film" in the recommended text.	
7. Develop and assign questions on using proper film speeds and types.	
8. Collect assignment and evaluate.	
9. Return assignment for future reference.	

PERFORMANCE OBJECTIVE: (1-2 class periods)

* TASK/COMPETENCY-- 018. Describe procedures for care of film.

EQUIPMENT AND SUPPLIES-- Negatives, negative files, bulk film and loader, masking tape, marking pins, reloadable cassettes, Edwal No Scratch.

STANDARD OF PERFORMANCE-- Identify 10 procedures for care of film before and after development.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 5, "Black and White Film". 2. Suggested a. Guide To Photography, Chapter 5, "Film".	1. Recommended a. Exploring Photography, Unit 5, "Black and White Film". 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
*1. Demonstrate how to properly care for and handle film before and after development. Have negative file sheets/negative sleeves available. *2. Demonstrate various remedies for scratched film. *3. Demonstrate bulk film loader. *4. Discuss how to preserve unexposed film by refrigeration. *5. Have students identify 10 procedures for care of film before and after development. Also, have students report in writing the cause and effect of scratches and film storage. *6. Collect and evaluate assignment. *7. Return assignment for future reference.	*1. Observe and take notes from lecture and demonstrations. *2. Identify 10 procedures for care of film before and after development. Also, report in writing the cause and effect of scratches and film storage. Submit for evaluation. *3. File assignment for future reference.

BASIC PICTURE-TAKING TECHNIQUES

PERFORMANCE OBJECTIVE: (1-3 class periods)

* TASK/COMPETENCY-- 019. Identify the elements of a good photograph.

EQUIPMENT AND SUPPLIES-- Sample photographs, slides.

STANDARD OF PERFORMANCE-- Identify 5 elements of a good photograph.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 6, "How To Use a Camera". 2. Suggested a. Guide To Photography, Chapter 1, "Designing Pictures".	1. Recommended a. Exploring Photography, Unit 6, "How To Use a Camera". 2. Suggested a. Guide To Photography, Chapter 1, "Designing Pictures".

SELECTED INSTRUCTIONAL MATERIALS:

1. Same as in the performance objective.
2. Video Cassettes:
   a. "The Art of Composition", Kodak Video Exchange, #103.
   b. "Prizewinning Photos - What Makes Them Click", Kodak Video Exchange, #110.
3. Television and Video Cassette Player (VHS).

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "How To Use a Camera" in the recommended text.	*1. Read "How To Use a Camera" in recommended text.
*2. Develop a collection of prints, posters, and slides including some that could have been better. Some of the photo magazines and clubs do this each month.	*2. Identify 5 elements of a good photograph.
3. Show video cassettes "The Art of Composition" and "Prizewinning Photos - What Makes Them Click".	3. Watch video cassettes "The Art of Composition" and "Prizewinning Photos - What Makes Them Click".
*4. Discuss teacher's collection of prints, posters, and slides for good and bad elements such as: focus, depth of field, exposure, lighting, composition (framing, point of interest, angle, background, etc.).	*4. Take notes from the lecture on the good and bad elements of photographs.
	*5. Select an object or topic to photograph using various compositions, lighting, exposure, depth of field, etc.
	*6. Critique one of your own photos to the class. What is good, bad, and what would make it better.

PERFORMANCE OBJECTIVE: (2-3 class periods)

* TASK/COMPETENCY-- 020. Identify and describe filters and their uses.

EQUIPMENT AND SUPPLIES-- Assortment of filters (UV, Skylight, 80A, Polarizing, etc.) for B/W and for color film.

STANDARD OF PERFORMANCE-- Identify 10 types of filters and describe their uses.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 11, "Filters". 2. Suggested a. Guide To Photography, Chapter 8, "Filters". b. The New Joy of Photography, Part II, "Filters".	1. Recommended a. Exploring Photography, Unit 11, "Filters". 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS:
1. Same as in the performance objective.
2. Video Cassette, "Imaginative Use of Filters", Kodak Video Exchange, #106.
3. Video Cassette Player.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "Filters" in the recommended text.	*1. Read "Filters" in the recommended text.
*2. Display a variety of filters -- discuss handling, applications, and the cost of various filters.	*2. Observe and take notes from the discussion and demonstration.
*3. Discuss and show homemade filters.	*3. Identify 10 types of filters along with their applications.
*4. Show examples of photographs taken with and without filters.	4. Watch the video cassette "Imaginative Use of Filters".
5. Show video cassette "Imaginative Use of Filters".	5. Given a set of conditions for photographing, select an appropriate filter.
6. Develop various types of conditions for the students to select appropriate filters.	6. Expose a roll of black and white film and a roll of color film using filters to enhance the images or to explore the effects of different filters on a given image. Keep data on filters and photographs.
7. Assign student to shoot a roll of black and white and color film using filters to enhance the images, or to explore the effect of different filters on a given image.	7. Share pictures and data with class.
8. Collect work and evaluate.	8. Submit work for an evaluation.

PERFORMANCE OBJECTIVE: (2-3 class periods)

* TASK/COMPETENCY-- 021. Identify and describe lighting accessories.

EQUIPMENT AND SUPPLIES-- Flash, reflectors, light stands, diffusers, battery chargers, batteries, slave unit, umbrella, meters, stroboscopic electronic flash.

STANDARD OF PERFORMANCE-- Identify and describe lighting accessories for various shots.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 7, "Lighting". 2. Suggested a. Guide To Photography, Chapter 9, "Controlled Lighting". b. The New Joy of Photography, Part II, "Accessories".	1. Recommended a. Exploring Photography, Unit 7, "Lighting". 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

2. Video Cassette, "Using Flash Effectively", Kodak Video Exchange, #111.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "Lighting" in the recommended text.	*1. Read "Lighting" in the recommended text.
*2. Display, identify, and demonstrate all available lighting equipment, including the sun.	*2. Listen and take notes from lecture.
3. Show video "Using Flash Effectively".	*3. Identify and describe basic lighting equipment for various shots.
*4. Have studio lights set up for portraiture and/or still life.	*4. Shoot a series of pictures demonstrating outdoor or natural lighting techniques. Keep data on each shot.
*5. Visit school yearbook photo site.	*5. Shoot a series of pictures showing indoor/artificial lighting (flash, bounce, fill, portraits, etc.). Keep data on each shot.
*6. Assign students to shoot a series of pictures demonstrating outdoor or natural lighting techniques. Have students keep data on each shot. Evaluate the photographs conforming to the data sheet.	6. Shoot a series of pictures by taking a subject and showing various interpretations by changing only the lighting. Keep data on each shot.
*7. Assign students to shoot a series of pictures showing indoor/artificial lighting (flash, bounce, fill, portraits, etc.). Have students keep data on each shot. Evaluate the photographs conforming to the data sheet.	*7. Submit all photographs and data to the instructor for evaluation.
8. Assign students to shoot a series of pictures by taking a subject and showing various interpretations by changing <u>only</u> the lighting. Have students to keep data on each shot. Evaluate the photographs conforming to the data sheet.	

PERFORMANCE OBJECTIVE: (1-2 class periods)

* TASK/COMPETENCY-- 022. Identify and describe the use of camera accessories.

EQUIPMENT AND SUPPLIES-- Tripod, cable and remote release, auto winder, screens, prisms, cases, gadget bags, film canisters, lens cases, camera straps, lens hoods.

STANDARD OF PERFORMANCE-- Identify and describe the use of 10 different camera accessories.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Manufacturer's brochures b. Photography catalogs c. Magazine advertisements d. Instruction pamphlets 2. Suggested a. The New Joy of Photography, Part II, "Accessories".	1. Recommended a. Manufacturer's brochures b. Photography catalogs c. Magazine advertisements d. Instruction pamphlets 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective and the teacher reference.

ACTIVITIES:

TEACHER	STUDENT
*1. Display, identify, and demonstrate all available accessories for cameras. *2. Identify any new equipment or gadgets for cameras found in magazines, catalogs, etc. 3. Develop and assign questions over the various accessories. 4. Collect and evaluate assignment. 5. Return assignment for future reference.	*1. Listen and take notes from lecture and demonstration. *2. Make a list of the features and accessories you have available and/or could use if accessories were available. 3. Answer questions from assignment and submit for evaluation. 4. File assignment for future reference. 5. If available, use some of the accessories for shooting pictures. Keep data on each shot. 6. Share data and photographs with class.

BASIC PICTURE-TAKING TECHNIQUES

PERFORMANCE OBJECTIVE: (2-3 class periods)

* TASK/COMPETENCY-- 023. Photograph still images.

EQUIPMENT AND SUPPLIES-- Camera, film, subjects, props, lighting.

STANDARD OF PERFORMANCE-- Student will produce an acceptable, technically correct photograph according to the evaluation criteria.

ENABLING OBJECTIVE: Know the elements of a good photograph.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 6, "How To Use a Camera". 2. Suggested a. The New Joy of Photography, Part III, "The Image".	1. Recommended a. Exploring Photography, Unit 6, "How To Use a Camera". 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "How To Use a Camera" in the recommended text. *2. Discuss the definition of still images and show examples of photographs. *3. Explain to students "technically correct" vs "technically poor" photographs and list criteria: a. focus b. depth of field c. exposure d. lighting e. composition *4. Explain to students the remedies for "technically poor" photographs. *5. Have poor photographs available for students to critique. *6. Have students to produce technically correct photographs of still images. *7. Collect and evaluate photographs according to data sheets and the evaluation criteria.	*1. Read "How To Use a Camera" in the recommended text. *2. Observe and take notes from the discussion. *3. Critique a "poor" photograph. *4. Produce technically correct photographs of still images. Keep data on each photograph. Submit data and photographs for evaluation.

EVALUATION CRITERIA: Photographs should have correct:

1. focus
2. depth of field
3. exposure
4. lighting
5. composition

BASIC PICTURE-TAKING TECHNIQUES

PERFORMANCE OBJECTIVE: (2-3 class periods)

* TASK/COMPETENCY-- 024. Photograph action scenes.

EQUIPMENT AND SUPPLIES-- Camera, film, subjects.

STANDARD OF PERFORMANCE-- Produce stop action, panning, and blurring photographs that are acceptable and technically correct according to the evaluation criteria.

ENABLING OBJECTIVE: Know elements of a good photograph.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 6, "How to Use a Camera". 2. Suggested a. The New Joy of Photography, Part III, "The Image".	1. Recommended a. Exploring Photography, Unit 6, "How to Use a Camera". 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS:

1. Same as in the performance objective.
2. Video Cassette, "Action", Kodak Video Exchange, #112.
3. Video Cassette Player (VHS).
4. Sports Illustrated Magazines.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "How To Use a Camera" in the recommended text.	*1. Read "How To Use a Camera" in the recommended text.
2. Show and discuss video cassette "Action".	*2. Listen and take notes from the lecture.
3. Have local action photographer (sports photographer) speak to class. Video tape the speaker for later use.	3. Watch video cassette "Action".
*4. Present and discuss photographs from current and older issues of sports magazines.	*4. Take a series of pictures demonstrating command of the three action techniques (pan, blurring, stop action). Keep data for each shot. Submit data and photographs for evaluation.
*5. Have students take a series of pictures demonstrating command of the three action techniques (pan, blurring, stop action). They should also keep data for each shot.	5. Collect photo tear sheet and describe techniques of the photographer. Submit tear sheet for evaluation.
*6. Collect and evaluate photographs according to the data sheet and the evaluation criteria.	
7. Have students collect photo tear sheet and describe techniques of the photographer.	
8. Have students submit their tear sheets and evaluate.	

EVALUATION CRITERIA: Photographs should have correct:

1. focus
2. depth of field
3. exposure
4. lighting
5. composition

ADVANCED PICTURE-TAKING TECHNIQUES

PERFORMANCE OBJECTIVE: (2-5 class periods)

* TASK/COMPETENCY-- 025. Demonstrate studio techniques.

EQUIPMENT AND SUPPLIES-- Camera, film, lighting accessories, props, subject, backdrop, backdrop support, copy stand, diffusers or frosted windows, reflectors, barn doors, spot meter, stroboscopic electronic flash, poly contrast filters, light stands, slave unit, umbrellas, light meter, tripod, cable and remote release.

STANDARD OF PERFORMANCE-- Demonstrate studio techniques by producing acceptable and technically correct photographs according to the evaluation criteria.

ENABLING OBJECTIVE: Identify and describe lighting accessories.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 7, "Lighting". 2. Suggested a. Guide To Photography, Chapter 9, "Controlled Lighting". b. The New Joy of Photography, Part II, "The Home Studio".	1. Recommended a. Exploring Photography, Unit 7, "Lighting". 2. Suggested a. Guide To Photography, Chapter 9, "Controlled Lighting".

SELECTED INSTRUCTIONAL MATERIALS:

1. Same as in the performance objective.
2. Sound Slide Show, "Photographing People", Kodak Slide/Film Programs, #0048.
3. Sound Slide Projector.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "Lighting" in the recommended text.	*1. Read "Lighting" in the recommended text.
2. Arrange visit by portrait photographer (yearbook people could help). Video tape the speaker for later use.	*2. Observe, take notes from various speakers and the instructor.
3. Arrange visit by an advertising or product photographer.	3. Watch sound slide show, "Photographing People".
*4. Collect and show magazine articles on studio shooting (Peterson's has one or two every month for beginners).	*4. Define studio terms: key light, reflector, fill, barn doors, etc.
5. Show sound slide show "Photographing People".	*5. Produce photographs demonstrating 2 different portrait lighting techniques. Diagram and explain the lighting used. Keep data on each shot. Submit data and photographs for evaluation.
*6. Set up a studio.	6. Produce a studio photo other than a portrait. Examples: magazine cover, product advertisement, textbook illustration, etc. Diagram and explain the lighting used. Keep data on each shot. Submit data and photographs for an evaluation.
*7. Demonstrate various techniques and define studio terms.	
*8. Assign students to produce photographs demonstrating 2 different portrait lighting techniques.	
9. Assign students to produce a studio photo other than a portrait. Examples: magazine cover, product advertisement, textbook illustration, etc.	
10. Collect and evaluate photographs according to the data sheet and evaluation criteria.	

EVALUATION CRITERIA: Photographs should have correct:

1. focus
2. depth of field
3. exposure

EVALUATION CRITERIA: (continued)

4. lighting

5. composition

PERFORMANCE OBJECTIVE: (1-2 class periods)

* TASK/COMPETENCY-- 026. Demonstrate multiple exposures.

EQUIPMENT AND SUPPLIES-- Film, camera, tripod, lighting accessories, filters, shades, repeat flash.

STANDARD OF PERFORMANCE-- Produce acceptable multiple exposure photographs according to the evaluation criteria.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. None. 2 Suggested a. The New Joy of Photography, Part III, "Multiple Exposures".	1. Recommended a. None. 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
*1. Discuss the definition of multiple exposure. *2. Collect and show examples of multiple exposure photographs. *3. Demonstrate techniques for creating multiple exposures. *4. Have students create in-camera multiple exposure photographs. Keep data on each shot. *5. Collect and evaluate photographs according to the data sheet and evaluation criteria.	*1. Observe and take notes from lecture and demonstration. *2. Create in-camera multiple exposure photographs. Keep data on each shot. *3. Submit all data and photographs for evaluation.

EVALUATION CRITERIA: Photographs should have correct:

1. focus
2. depth of field
3. exposure
4. lighting
5. composition

PERFORMANCE OBJECTIVE: (1 class period)

* TASK/COMPETENCY-- 027. Demonstrate time exposures.

EQUIPMENT AND SUPPLIES-- Film, camera, tripod, cable release, flash, watch, filters.

STANDARD OF PERFORMANCE-- Produce acceptable time exposed photographs according to the evaluation criteria.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. None. 2. Suggested a. The New Joy of Photography, Part III, "Time Exposures".	1. Recommended a. None. 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
*1 Discuss the effect of exposure time on film compared to the effect on the eye. *2. Explain reciprocity failure and where to find a correction factor. *3. Discuss importance of a solid-base tripod. *4. Collect and show examples of time-exposed photographs. Example: night, astral, scientific, zoom, etc. *5. Demonstrate techniques for creating time-exposed photographs. *6. Have students shoot time-exposed photographs. Keep data on each shot. *7. Collect and evaluate photographs according to the evaluation criteria and data sheets.	*1. Observe and take notes from the discussions and demonstration. *2. Create time-exposed photographs. Keep data on each shot. *3. Submit all data and photographs for evaluation.

EVALUATION CRITERIA: Photographs should have correct:

1. focus
2. depth of field
3. exposure
4. lighting
5. composition

ADVANCED PICTURE-TAKING TECHNIQUES

PERFORMANCE OBJECTIVE: (2-3 class periods)

* TASK/COMPETENCY-- 028. Describe the effects obtained by using the creative controls on a camera.

EQUIPMENT AND SUPPLIES-- Camera, film.

STANDARD OF PERFORMANCE-- Demonstrate in photographs the variations in depth of field, subject movement, lens choices, etc.

ENABLING OBJECTIVE: Identify camera's creative controls.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 6, "How To Use a Camera". 2. Suggested a. Guide To Photography, Chapter 6, " The Creative Controls: F/Stop, Shutter Speed, Focus".	1. Recommended a. Exploring Photography, Unit 6, "How To Use a Camera". 2. Suggested a. Guide To Photography, Chapter 6, "The Creative Controls: F/Stop, Shutter Speed, Focus".

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "How To Use a Camera" in the recommended text.	*1. Read "How To Use a Camera" in the recommended text.
*2. Have students read "The Creative Controls: F/Stop, Shutter Speed, Focus" in the suggested text if copies are available.	*2. Read "The Creative Controls: F/Stop, Shutter Speed, Focus" in the suggested text if copies are available.
*3. Demonstrate effects obtained by using the creative controls: F/Stop ring, shutter speed dial, focusing ring.	*3. Take notes from the demonstration.
*4. Have students make a series of photographs demonstrating the effect of aperature on depth of field. Keep data on each shot.	*4. Make a series of photographs demonstrating the effect of aperature on depth of field. Keep data on each shot.
*5. Have students make a series of photographs demonstrating how lens length or camera location can alter perspective. Keep data on each shot.	*5. Make a series of photographs demonstrating how lens length or camera location can alter perspective. Keep data on each shot.
*6. Have students make a series of photographs using available equipment to demonstrate: - shutter speed and subject motion - angle of view - lens length Keep data on each shot.	*6. Make a series of photographs using available equipment to demonstrate: - shutter speed and subject motion - angle of view - lens length Keep data on each shot.
*7. Collect and evaluate photographs and data.	*7. Submit all data and photographs for evaluation.

ADVANCED PICTURE-TAKING TECHNIQUES

PERFORMANCE OBJECTIVE: (1-2 class periods)

* TASK/COMPETENCY-- 029. Identify and describe recently introduced films.

EQUIPMENT AND SUPPLIES-- Samples or boxes of various films, data sheets, technical bulletins, advertisements.

STANDARD OF PERFORMANCE-- Identify recently developed film and recent film improvements.

REFERENCES:

TEACHER	STUDENT
1. Recommended	1. Recommended
a. Current technical periodicals	a. Current technical periodicals
b. Local stores	b. Local stores
c. Photographic suppliers	c. Photographic suppliers
d. Studios	d. Studios
e. Commercial developing labs	e. Commercial developing labs
2. Suggested	2. Suggested
a. None.	a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

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ACTIVITIES:

TEACHER	STUDENT
*1. Collect samples of film boxes, film, technical sheets, prints, advertisements, reviews, etc. *2. Discuss some of the problems film manufacturers have dealt with in the past and will in the future, and how they have been solved, avoided, covered-up and experimented with. *3. Discuss the latest film products on the market. *4. Assign students to report on a historic film development (example: Kodachrome, Land process, etc.) and submit report for evaluation. *5. Assign students to report on a recent innovation in films including current and future developments. Submit report for evaluation. 6. Have students shoot a roll of film recently introduced and compare the results with a competitor or standard film. Share the results of the films compared with class.	*1. Take notes from discussion. *2. Report on a historic film development. Example: Kodachrome, Land process, etc. Submit report for evaluation. *3. Report on a recent innovation in films including current and future developments. Submit report for evaluation. 4. Shoot a roll of film recently introduced and compare the results with a competitor or standard film. Share the results of the films compared with class.

ADVANCED PICTURE-TAKING TECHNIQUES

PERFORMANCE OBJECTIVE: (2-3 class periods)

* TASK/COMPETENCY-- 030. Describe the differences between close-up photography, photomacrography, and photomicrography.

EQUIPMENT AND SUPPLIES-- Basic and extension tubes, reversing rings, bellows, microscope adapter, close-up lenses, macro/micro lenses, film developers.

STANDARD OF PERFORMANCE-- Produce photographs using basic methods of close-up photography and photomacrography.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 13, "Close-Up and Photomacrography". 2. Suggested a. Guide To Photography, Chapter 7, "Lenses".	1. Recommended a. Exploring Photography, Unit 13, "Close-Up and Photomacrography". 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS:

1. Same as in the performance objective.
2. Video Cassette, "Effective Use of Lenses", Kodak Video Exchange, #104.
3. Sound Slide Show, "Secrets of Close-Up Photography", Kodak Slide/Film Programs, #0032.
4. Video Cassette Player (VHS).
5. Sound Slide Projector.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "Close-Up and Photomacrography" in the recommended text.	*1. Read "Close-Up and Photomacrography" in the recommended text.
*2. Display, identify, and demonstrate all available close-up and photomacrography equipment.	*2. Observe and take notes from the demonstrations.
*3. Obtain samples of photographs and share with class.	3. Watch the video cassette "Effective Use of Lenses" and/or sound slide show "Secrets of Close-Up Photography".
4. Show and discuss video cassette "Effective Use of Lenses" and/or sound slide show "Secrets of Close-Up Photography".	*4. Develop photographs using all available close-up and photomacrography equipment. Keep data on each shot and submit for evaluation.
*5. Assign students to develop photographs using all available close-up and photomacrography equipment. Keep data on each shot.	
*6. Collect and evaluate photographs according to data.	

PROCESSING BLACK AND WHITE FILM

PERFORMANCE OBJECTIVE: (1 class period)

* TASK/COMPETENCY-- 031. Mix photographic chemicals for processing.

EQUIPMENT AND SUPPLIES-- Chemicals, storage bottles, funnels, thermometer, stirrers, graduates, chemical instruction sheets, rubber gloves, safety glasses, aprons, water, tongs.

STANDARD OF PERFORMANCE-- Mix chemicals safely and properly according to their instructions.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 9, "How To Develop Black and White Film". 2. Suggested a. Guide To Photography, Chapter 11, "Film Processing". b. Basic Developing, Printing, Enlarging In Black and White, Kodak, #AJ-2. c. The New Joy of Photography, Part IV, "Processing Black and White Film". d. Black and White Darkroom Techniques, "Processing Black and White Film", HP Books.	1. Recommended a. Exploring Photography, Unit 9, "How To Develop Black and White Film".

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "How To Develop Black and White Film" in recommended text. *2. Obtain necessary material and demonstrate the proper method of mixing chemicals from instructions provided with chemicals. *3. Demonstrate proper storage of mixed chemicals and their shelf life. *4. Discuss action to take if an accident should happen during chemical mixing. *5. Assign students to prepare a written list of precautions from instructions provided with the chemicals. *6. Collect and evaluate assignment.	*1. Read "How To Develop Black and White Film" in the recommended text. *2. Observe and take notes from the discussion and demonstrations. *3. Prepare a written list of the precautions from instructions provided with chemicals. Submit for evaluation. *4. Participate in mixing chemicals for processing.

PROCESSING BLACK AND WHITE FILM

PERFORMANCE OBJECTIVE: (1-2 class periods)

* TASK/COMPETENCY-- 032. Load film into developing tank.

EQUIPMENT AND SUPPLIES-- Exposed roll of black and white film, darkroom or changing bag, developing tank and reel, reel opener, scissors.

STANDARD OF PERFORMANCE-- Load film according to the evaluation criteria.

ENABLING OBJECTIVE: Shoot a roll of black and white film.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 9, "How To Develop Black and White Film". 2. Suggested a. Guide To Photography, Chapter 11, "Film Processing". b. Basic Developing, Printing, Enlarging in Black and White, Kodak, #AJ-2. c. The New Joy of Photography, Part IV, "Processing Black and White Film". d. Black And White Darkroom Techniques, "Processing Black and White Film", HP Books.	1. Recommended a. Exploring Photography, Unit 9, "How To Develop Black and White Film". 2. Suggested a. Guide To Photography, Chapter 11, "Film Processing". b. Basic Developing, Printing, Enlarging in Black and White, Kodak.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

2. Sound Slide Show, "Processing Black and White Film", Kodak Slide/Film Programs, #0079.

3. Sound Slide Projector.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "How To Develop Black and White Film" in the recommended text.	*1. Read "How To Develop Black and White Film" in recommended text.
*2. Display and identify equipment and and supplies used.	*2. Identify equipment and supplies used.
*3. Demonstrate loading film into a developing tank in a lighted area.	*3. Observe demonstration on loading film.
4. Show sound slide show "Processing Black and White Film".	4. Watch sound slide show "Processing Black and White Film".
*5. Develop and provide students a handout or list of procedures for loading film into the developing tank.	*5. Practice loading non-useable film into developing tank.
	*6. Load an exposed roll of black and white film into developing tank.
	*7. File handout on film-loading procedures for future reference.

EVALUATION CRITERIA: 1. Film must be wound on reel inside tank with lid locked in place.

2. A more thorough evaluation may be made after film processing. Check for crimps, scratches, fingerprints, etc.

PROCESSING BLACK AND WHITE FILM

PERFORMANCE OBJECTIVE: (6-12 class periods)

* TASK/COMPETENCY-- 033. Develop black and white film into negatives.

EQUIPMENT AND SUPPLIES-- Chemicals (developer, stop bath, fixer), thermometer, timer, graduates, film clips, stirring rod, 3 jars, running water.

STANDARD OF PERFORMANCE-- Produce negatives without flaws.

ENABLING OBJECTIVE: Load film into developing tank.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 9, "How To Develop Black and White Film". 2. Suggested a. Guide To Photography, Chapter 11, "Film Processing". b. Basic Developing, Printing, Enlarging in Black and White, Kodak, #AJ-2. c. The New Joy Of Photography, Part IV, "Processing Black and White Film". d. Black and White Darkroom Techniques, "Processing Black and White Film", HP Books.	1. Recommended a. Exploring Photography. Unit 9, "How To Develop Black and White Film". 2. Suggested a. Basic Developing, Printing, Enlarging in Black and White, Kodak.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

2. Sound Slide Show, "Processing Black and White Film", Kodak Slide/Film Program, #0079.

SELECTED INSTRUCTIONAL MATERIALS: (continued)

3. Sound Slide Projector.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "How To Develop Black and White Film" in recommended text.	*1. Read "How To Develop Black and White Film" in the recommended text.
*2. Produce a handout sheet with the procedures for developing black and white film. Hand out sheet to students.	*2. Observe and take notes from the discussion and demonstration.
*3. From the handout, demonstrate procedures for developing black and white film.	3. Watch sound slide show "Processing Black and White Film".
*4. Discuss how crucial time and temperature are to development.	*4. Process a roll of black and white film; use handout for guidance.
*5. Demonstrate proper washing of film and use of hypo clearing agent.	a. Select proper chemicals.
*6. Demonstrate the proper use of a wetting agent and the drying of negatives.	b. Check temperature and time of processes.
7. Show sound slide show "Processing Black and White Film".	c. Apply wetting agent and dry negatives.
*8. Collect and evaluate student negatives. Look for undamaged negatives.	*5. Submit negatives for evaluation.
*9. Return negatives to students.	*6. File negatives for future use.

PROCESSING BLACK AND WHITE FILM

PERFORMANCE OBJECTIVE: (1 class period)

* TASK/COMPETENCY-- 034. Maintain a negative file.

EQUIPMENT AND SUPPLIES-- Plastic sleeves or envelopes, glassine envelopes, adhesive, boxes, file cards, labels.

STANDARD OF PERFORMANCE-- Protect and identify negatives for future reference in a filing system.

ENABLING OBJECTIVE: Develop film into negatives.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 9, "How To Develop Black and White Film". 2. Suggested a. Guide To Photography, Chapter XI, "Film Processing". b. The New Joy of Photography, Part V, "Caring for Photographs". c. Black And White Darkroom Techniques, "Processing Black and White Film", HP Books.	1. Recommended a. Exploring Photography, Unit 9, "How To Develop Black and White Film". 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "How To Develop Black and White Film" in the recommended text. *2. Discuss the importance of properly storing film. *3. Discuss and demonstrate various methods of storing, protecting, and identifying film. a. sleeves (plastic, glassine) b. envelopes (plastic) c. sleeves and envelopes attached to contact sheet d. labeled sleeves and envelopes e. file in boxes *4. Assign students to prepare and keep a negative file using an accepted method of filing. *5. Collect and evaluate student filing systems.	*1. Read "How To Develop Black and White Film" in the recommended text. *2. Observe and take notes from the discussion and demonstration. *3. Prepare and keep a negative file using an accepted method of filing. *4. Submit the filing system for evaluation.

PRINTING AND PROCESSING PAPER

PERFORMANCE OBJECTIVE: (1-2 class periods)

* TASK/COMPETENCY-- 035. Identify and describe characteristics of print paper.

EQUIPMENT AND SUPPLIES-- Brochures, data sheets, manufacturer descriptions, containers for print paper.

STANDARD OF PERFORMANCE-- Identify and describe the 4 characteristics of print paper.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 10, "Making Black and White Prints". 2. Suggested a. Basic Developing, Printing, Enlarging in Black and White, Kodak, #AJ-2. b. Black and White Darkroom Techniques, "Black and White Printing Papers", HP Books.	1. Recommended a. Exploring Photography, Unit 10, "Making Black and White Prints". 2. Suggested a. Basic Developing, Printing, Enlarging in Black and White, Kodak, #AJ-2.

SELECTED INSTRUCTIONAL MATERIALS:

1. Same as in the performance objective.
2. Sound Slide Show, "Beginning Black and White Printing", Kodak Slide/Film Programs, #0050.
3. Sound Slide Projector.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "Making Black and White Prints" in the recommended text. *2. Collect packages and samples of black and white print papers and discuss the four characteristics of print paper. *3. Prepare a display of prints showing various printing papers, textures, weights and contrasts. 4. Show sound slide show "Beginning Black and White Printing". *5. Prepare a list of names of the various printing papers and have the students identify and describe each. *6. Collect students' work and evaluate.	*1. Read "Making Black and White Prints" in the recommended text. *2. Observe and take notes for discussion. 3. Watch sound slide show "Beginning Black and White Printing". *4. Identify and describe the various printing papers the instructor has listed. Also, identify and describe the 4 characteristics of print paper. Submit work for evaluation.

PERFORMANCE OBJECTIVE: (1 class period)

* TASK/COMPETENCY-- 036. Identify and describe basic enlarger parts and their use.

EQUIPMENT AND SUPPLIES-- Easel, enlarger, and owner's manual.

STANDARD OF PERFORMANCE-- Identify the enlarger's 3 main parts and the subparts.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 8, "The Basic Darkroom". 2. Suggested a. Essentials of Photography, Unit 7, "Print Processing and Contact Printing". b. Guide To Photography, Chapter 12, "Printing". c. Black and White Darkroom Techniques, "Making Black and White Enlargements", HP Books.	1. Recommended a. Exploring Photography, Unit 8, "The Basic Darkroom". 2. Suggested a. Essentials of Photography, Unit 7, "Print Processing and Contact Printing".

SELECTED INSTRUCTIONAL MATERIALS:
1. Same as in the performance objective.
2. Sound Slide Show, "Beginning Black and White Printing", Kodak Slide/Film Programs, #0050.
3. Sound Slide Projector.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "The Basic Darkroom" in the recommended text.	*1. Read "The Basic Darkroom" in the recommended text.
*2. Identify the enlarger's 3 main parts and their subparts.	*2. Identify the enlarger's 3 main parts and their subparts.
*3. Demonstrate the function of the adjustments on the enlarger.	*3. Observe and take notes from the demonstration.
*4. Demonstrate proper procedure for setting up and adjusting enlarger.	*4. Practice setting up and adjusting the enlarger for printing.

PRINTING AND PROCESSING PAPER

PERFORMANCE OBJECTIVE: (1 class period)

* TASK/COMPETENCY-- 037. Prepare photographic chemicals for printing.

EQUIPMENT AND SUPPLIES-- Darkroom, chemicals (developer, stop bath, and fixer), stirrers, graduates, chemical instruction sheets, 4 processing trays, 3 large jars, darkroom thermometer.

STANDARD OF PERFORMANCE-- Chemicals should be mixed and poured into the correct trays for the left to right processing order.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 10, "Making Black and White Prints". 2. Suggested a. Basic Developing, Printing, Enlarging in Black and White, "Proof Sheets", Kodak, #AJ-2. b. Essentials Of Photography, Unit 7, "Print Processing and Contact Printing".	1. Recommended a. Exploring Photography, Unit 10, "Making Black and White Prints". 2. Suggested a. Basic Developing, Printing, Enlarging in Black and White, "Proof Sheets", Kodak, #AJ-2.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

2. Sound Slide Show, "Beginning Black and White Printing", Kodak Slide/Film Programs, #0050.

3. Sound Slide Projector.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "Making Black and White Prints" in the recommended text. *2. Discuss safety precautions from the instructions with the chemicals. *3. Obtain necessary material and demonstrate the proper method of mixing chemicals from instructions provided with chemicals. *4. Pour chemicals into trays and sequence their order. Check instructions for correct processing temperature. *5. Demonstrate proper storage of mixed chemicals and discuss their shelf life. *6. Discuss action to take if an accident should happen during chemical mixing. *7. Discuss how to identify when chemicals need to be replaced after multiple uses. *8. Explain why chemicals should not be mixed in the reverse order. *9. Have students participate in the preparation.	*1. Read "Making Black and White Prints" in the recommended text. *2. Observe and take notes from the discussion and demonstrations. *3. Participate in the preparation and mixing of chemicals for black and white printing.

PERFORMANCE OBJECTIVE: (2-3 class periods)

* TASK/COMPETENCY-- 038. Develop a proof sheet.

EQUIPMENT AND SUPPLIES-- Darkroom, set of negatives, printing frame, enlarger, chemicals in trays, safelight, resin coated variable contrast print paper, thermometer, timer, squeegee, light, running water, wash tray, gloves, aprons, projection print scale, gray card.

STANDARD OF PERFORMANCE-- Proof sheet should have clear pictures from using the correct amount of light exposure time.

ENABLING OBJECTIVE: - Identify and describe basic enlarger parts and their use.

- Prepare photographic chemicals for printing.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 10, "Making Black and White Prints". 2. Suggested a. Guide To Photography, Chapter 12, "Printing". b. Basic Developing, Printing, Enlarging In Black and White, "Proof Sheets", Kodak, #AJ-2. c. Black and White Darkroom Techniques, "Making Contact Prints", HP Books.	1. Recommended a. Exploring Photography, Unit 10, "Making Black and White Prints". 2. Suggested a. Basic Developing, Printing, Enlarging In Black and White, "Proof Sheets", Kodak, #AJ-2.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

SELECTED INSTRUCTIONAL MATERIALS: (continued)

2. Sound Slide Show, "Beginning Black and White Printing", Kodak Slide/Film Program, #0050.

3. Sound Slide Projector

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "Making Black and White Prints" in the recommended text.	*1. Read "Making Black and White Prints" in the recommended text.
*2. Prepare necessary tools and supplies for demonstrating how to develop a proof sheet.	*2. Observe and take notes from the demonstration.
*3. Demonstrate how to develop a proof sheet using the enlarger and printing frame. Process paper in chemicals for correct amount of time.	*3. Prepare necessary tools and supplies for developing a proof sheet.
*4. If print is too light, double the amount of exposure time. If it is too dark, expose for half the amount of time. Repeat processing steps.	*4. Make a proof sheet using the enlarger and printing frame. Process paper in chemicals for correct amount of time. Wash and dry print.
*5. Assign and collect students' proof sheets for evaluation. Return for future class work.	*5. If print is too light, double the amount of exposure time. If it is too dark, expose for half the amount of time. Repeat processing steps.
	*6. Submit proof sheet for evaluation.
	*7. File proof sheets for future use.

PRINTING AND PROCESSING PAPER

PERFORMANCE OBJECTIVE: (8-18 class periods)

* TASK/COMPETENCY-- 039. Produce enlargements and reductions.

EQUIPMENT AND SUPPLIES-- Darkroom, negatives, printing frame, easel, focusing aid, brush or canned air, negative carrier, enlarger, chemicals in trays, safelight, resin coated variable contrast print paper, thermometer, timer, squeegee, light, running water, wash tray, gloves, aprons, exposure meter (optional).

STANDARD OF PERFORMANCE-- Produce a technically correct print according to the evaluation criteria.

ENABLING OBJECTIVE: Task/Competencies: 036, 037, 038.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 10, "Making Black and White Prints". 2. Suggested a. Guide To Photography, Chapter 12, "Printing". b. Basic Developing, Printing Enlarging In Black and White, "Enlarging", Kodak, #AJ-2. c. The New Joy Of Photography, Part IV, "Making Black and White Prints". d. Black and White Darkroom Techniques, "Making Black and White Enlargements", HP Books.	1. Recommended a. Exploring Photography, Unit 10 "Making Black and White Prints. 2. Suggested a. Basic Developing, Printing, Enlarging In Black and White, "Enlarging", Kodak, #AJ-2.

SELECTED INSTRUCTIONAL MATERIALS:

1. Same as in the performance objective.
2. Sound Slide Show, "Beginning Black and White Printing", Kodak Slide/Film Programs, #0050.
3. Sound Slide Projector

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "Making Black and White Prints" in the recommended text.	*1. Read "Making Black and White Prints" in the recommended text.
*2. Prepare necessary tools and supplies for demonstrating how to enlarge and reduce.	*2. Observe and take notes from demonstrations.
*3. Demonstrate procedure for making black and white enlargements and reductions.	*3. Prepare darkroom for making black and white prints.
*4. Demonstrate the preparation of negatives for use.	*4. Make a test exposure and develop. Evaluate for correct exposure time.
*5. Demonstrate the use of a focusing aid.	*5. Produce black and white enlargements.
*6. Demonstrate making a test exposure.	*6. Develop black and white enlargements.
*7. Demonstrate the use of a projection print scale.	*7. Produce black and white reductions.
*8. Assign students to submit enlargements and reductions for evaluation.	*8. Develop black and white reductions.
*9. Return photographs to students for future class work.	*9. Submit black and white enlargements and reductions for evaluation.
	*10. Keep photographs for future class work.

EVALUATION CRITERIA: Enlargements and reductions should be:

- properly exposed
- in focus
- processed and handled without flaws

PRINTING AND PROCESSING PAPER

PERFORMANCE OBJECTIVE: (7-14 class periods)

* TASK/COMPETENCY-- 040. Control contrast using variable contrast filters.

EQUIPMENT AND SUPPLIES-- Filters or color-head, exposure meter (optional), darkroom, negatives, printing frame, easel, focusing aid, brush or canned air, negative carrier, enlarger, chemicals in trays, safelight, resin coated variable contrast print paper, thermometer, timer, squeegee, light, running water, wash tray, gloves, aprons, various grades of print papers.

STANDARD OF PERFORMANCE-- Produce a series of technically correct prints showing variations in contrast.

ENABLING OBJECTIVE: Task/Competencies: 035, 036, 037, 038, 039.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 10, "Making Black and White Prints". 2. Suggested a. Guide To Photography, Chapter 12, "Printing". b. Basic Developing, Printing Enlarging in Black and White, "Enlarging", Kodak, #AJ-2. c. The New Joy of Photography, Part IV, "Making Black and White Prints". d. Black and White Darkroom Techniques, "Using Variable Contrast Papers", HP Books.	1. Recommended a. Exploring Photography, Unit 10, "Making Black and White Prints". 2. Suggested a. Basic Developing, Printing, Enlarging in Black and White, "Enlarging", Kodak, #AJ-2.

SELECTED INSTRUCTIONAL MATERIALS:

1. Same as in the performance objective.
2. Sound Slide Show, "Beginning Black and White Printing", Kodak Slide/Film Programs.
3. Sound Slide Projector.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "Making Black and White Prints" in the recommended text.	*1. Read "Making Black and White Prints" in the recommended text.
*2. Prepare darkroom tools and supplies for developing.	*2. Prepare darkroom tools and supplies for developing.
*3. Demonstrate use of variable contrast filters to control contrast and/or demonstrate use of color-head to control contrast.	*3. Produce and develop prints using the various contrast filters.
*4. Produce and develop prints using the various contrast filters.	4. Produce and develop prints using various grades of print paper.
5. Produce and develop prints using the various grades of print paper.	*5. Submit photographs using various contrast filters and/or using various grades of print paper.
6. Show the difference in prints produced by variable contrast filters to prints produced on various grades of paper.	
*7. Assign students to produce and develop prints using the various contrast filters.	
8. Assign students to produce and develop prints using various grades of print paper.	
*9. Have students submit photographs using various contrast filters and/or using various grades of print paper.	
*10. Evaluate photographs and return.	

EVALUATION CRITERIA: Photographs should be:

- properly exposed
- in focus
- processed and handled without flaws

PRINTING AND PROCESSING PAPER

PERFORMANCE OBJECTIVE: (6-12 class periods)

* TASK/COMPETENCY-- 041. Identify and perform print manipulation techniques.

EQUIPMENT AND SUPPLIES-- Burning-in card, sheet of cardboard, dodging tools, vignette tool, diffusion screen, darkroom, darkroom tools and supplies, negatives.

STANDARD OF PERFORMANCE-- Student will produce technically correct altered prints.

ENABLING OBJECTIVE: Produce enlargements and reductions.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 8, "The Basic Darkroom".	1. Recommended a. Exploring Photography, Unit 8, "The Basic Darkroom".
2. Suggested a. Essentials of Photography, Unit 9, "Printing Techniques and Manipulations". b. Basic Developing, Printing, Enlarging in Black and White, "Control Techniques", Kodak, #AJ-2. c. The Photographer's Handbook, Second Edition, "Special Darkroom Techniques". d. Darkroom Techniques, "Dodging, Burning-In and Other Controls", HP Books. e. Creative Darkroom Techniques, "Adding Texture", HP Books.	2. Suggested a. Essentials of Photography, Unit 9, "Printing Techniques and Manipulations". b. Basic Developing, Printing, Enlarging in Black and White, "Control Techniques", Kodak, #AJ-2.

SELECTED INSTRUCTIONAL MATERIALS:

1. Same as in the performance objective.
2. Sound Slide Show, "Advanced Black and White Printing", Kodak Slide/Film Programs, #AV-0051.
3. Sound Slide Projector

ACTIVITIES:

TEACHER	STUDENT
*1. Define print manipulation techniques: dodging, burning-in, vignetting, texture screens. *2. Show examples of dodging, burning-in, vignetting, and using screens. *3. Show sound slide show "Advanced Black and White Printing". *4. Prepare darkroom tools and supplies for developing. *5. Demonstrate dodging, burning-in, vignetting, and using screens. *6. Assign students to make enlargements using dodging and burning-in to improve a print. *7. Assign students to make enlargements using vignetting and screens to enhance prints. *8. Have students submit improved and enhanced photographs for evaluation. *9. Evaluate photographs and return. Note: Collect enlarged photographs to compare manipulation techniques. 10. Optional Activities a. Sandwiching negatives b. Solarizing	*1. Observe and take notes from lecture and demonstrations. *2. Watch sound slide show "Advanced Black and White Printing". *3. Identify and define print manipulation techniques. *4. Prepare darkroom tools and supplies. *5. Produce enlargements using dodging and burning-in to improve prints. *6. Produce enlargements using vignetting and screens to enhance prints. *7. Submit photographs for evaluation. Also include enlargements for comparison of the photographs.

TEACHER	STUDENT
10. Optional Activities (continued) c. Baseboarding d. Multiple images e. Coating f. Photograms g. Montage h. Coloring black and white prints	

PRINTING AND PROCESSING PAPER

PERFORMANCE OBJECTIVE: (1-2 class periods)

* TASK/COMPETENCY-- 042. Make black and white enlargements from color negatives.

EQUIPMENT AND SUPPLIES-- Panalure paper, chemistry, color negatives, darkroom equipment and supplies, instruction sheet from paper.

STANDARD OF PERFORMANCE-- Student will produce a technically correct print.

ENABLING OBJECTIVE: Produce enlargements and reductions. (Task/Competency: 039.)

REFERENCES:

TEACHER	STUDENT
1. Recommended a. None. 2. Suggested a. Basic Developing, Printing in Color, Kodak, #AE-13.	1. Recommended a. None. 2. Suggested a. Basic Developing, Printing in Color, Kodak, #AE-13.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
*1. Explain how black and white prints can be made from color negatives.	*1. Listen, observe and take notes from discussion and demonstrations.
*2. Prepare darkroom for making enlargements.	*2. Produce a black and white print from a color negative. Use information from the instruction sheet that came with the paper being used. Submit for evaluation.
*3. Locate instruction sheet that comes with the paper used.	
*4. Demonstrate exposure and processing using information from the instruction sheet.	*3. Use filters for tone rendition on a print. Submit for evaluation.
5. Demonstrate tone rendition by using filters with the enlarger.	
*6. Assign students to produce a black and white print from a color negative. Collect and evaluate.	
7. Assign students to use filters for tone rendition on a print. Submit prints for evaluation.	
*8. Return prints for later use.	

PERFORMANCE OBJECTIVE: (1 class period)

* TASK/COMPETENCY-- 043. Mix photographic color chemicals.

EQUIPMENT AND SUPPLIES-- Chemicals for negatives and slides, storage bottles, funnels, thermometer, stirrers, graduates, chemical instruction sheets, rubber gloves, safety glasses, aprons, water.

STANDARD OF PERFORMANCE-- Mix chemicals safely and properly according to their instructions.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 12, "Color Photography". 2. Suggested a. Basic Developing, Printing, Enlarging in Color, Kodak, #AE-13. b. The New Joy of Photography, Part IV, "Processing Color Film."	1. Recommended a. Exploring Photography, Unit 12, "Color Photography". 2. Suggested a. Basic Developing, Printing, Enlarging in Color, Kodak, #AE-13.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "Color Photography" in recommended text.	*1. Read "Color Photography" in recommended text.
*2. Obtain color chemistry kits for color negatives and color slides.	*2. Observe and take notes from discussion and demonstrations.
*3. Demonstrate the proper method of mixing chemicals from instructions provided with chemicals.	*3. Participate in mixing chemicals for processing.
*4. Demonstrate proper storage of mixed chemicals and discuss their shelf life.	*4. Prepare a written list of the precautions from instruction provided with chemicals. Submit for evaluation.
*5. Discuss chemical precautions which are found on each package. Also, discuss action to take if an accident should happen during chemical mixing.	*5. File returned assignment for future reference.
*6. Assign students to prepare a written list of precautions from instructions provided with the chemicals.	*6. When mixing chemicals, use handout (basic procedure outline) for assistance.
*7. Collect and evaluate assignment.	
*8. Prepare basic procedure outline from instruction sheets for handouts.	

EVALUATION CRITERIA: Proper chemical mixing can be determined by checking the quality of the processed film.

PERFORMANCE OBJECTIVE: (3-4 class periods)

* TASK/COMPETENCY-- 044. Develop color film into negatives or positives.

EQUIPMENT AND SUPPLIES-- Color film (negative or positive), color negative chemicals, color slide chemicals, running water, developing tank and reel, thermometer, timer, 4 jars, mixing containers, rubber gloves, 1 large deep tray, film clips, scissors, stirring rod, film squeegee.

STANDARD OF PERFORMANCE-- Produce color negatives or positives without flaws.

ENABLING OBJECTIVE: Load film into developing tank.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 12, "Color Photography". 2. Suggested a. Basic Developing, Printing, Enlarging in Color, Kodak, #AE-13. b. The New Joy of Photography, Part IV, "Processing Color Film".	1. Recommended a. Exploring Photography, Unit 12, "Color Photography." 2. Suggested a. Basic Developing, Printing, Enlarging in Color, Kodak, #AE-13.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective

2. Film Data Sheets

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "Color Photography" in the recommended text. *2. Develop a procedure outline for developing color negatives and slides. *3. Hand out procedure outline and discuss steps for developing color negatives and slides. *4. Demonstrate procedures for developing color negatives and slides. *5. Discuss how crucial time and temperature are to development. *6. Demonstrate the proper use of a wetting agent and the drying of negatives and slides. *7. Have students to develop color negatives or slides. *8. Collect and evaluate student negatives. Look for undamaged negatives. *9. Return negatives to students.	*1. Read "Color Photography" in the recommended text. *2. Observe and take notes from the discussion and demonstrations. *3. Develop negatives or slides using proper procedures according to handout. Negatives or slides should be produced without flaws. *4. Submit negatives or slides for evaluation. *5. File negatives or slides for future use.

PERFORMANCE OBJECTIVE: (2-4 class periods)

* TASK/COMPETENCY-- 045. Expose a test print.

EQUIPMENT AND SUPPLIES-- Darkroom, color negatives and slides, enlarger, color printing filters (CC or CP), enlarging easel, safelight, brush, timer, light, color printing paper, voltage regulator (optional).

STANDARD OF PERFORMANCE-- Test print should have a satisfactory color balance, appearance, and proper exposure (see the evaluation criteria).

ENABLING OBJECTIVE: Task/Competency: 035, 036, 038, 039.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 12, "Color Photography". 2. Suggested a. Basic Developing, Printing, Enlarging in Color, Kodak, #AE-13. b. The New Joy of Photography, Part IV, "Processing Color Film".	1. Recommended a. Exploring Photography, Unit 12, "Color Photography". 2. Suggested a. Basic Developing, Printing, Enlarging in Color, Kodak, #AE-13.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

2. Sound Slide Show, "Color Printing from Color Negatives", Kodak Slide/Film Programs.

3. Sound Slide Projector.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "Color Photography" in recommended text.	*1. Read "Color Photography" in the recommended text.
2. Show sound slide show "Color Printing from Color Negatives".	2. Watch sound slide show "Color Printing from Color Negatives".
*3. Prepare in the darkroom all materials needed for making a test print from color negatives.	*3. Take notes from the discussions and demonstrations.
*4. Discuss and demonstrate equipment, paper, and filters needed.	*4. Expose a test print from color negatives and hold for processing the paper. Record all exposure times and submit with the test print.
*5. Demonstrate paper setup and procedures. Make a test series of 4 exposures on one sheet of photograph paper.	5. Expose a test print from color slides and hold for processing the paper. Record all exposure times and submit with the test print.
*6. Emphasize proper data recording techniques.	*6. Test print submitted should have a satisfactory color balance, appearance, and proper exposure.
*7. Assign students to expose a test print from color negatives and hold for processing the paper.	
8. Discuss and demonstrate making a test print from color slides.	
9. Assign students to expose a test print from color slides and hold for processing the paper.	

EVALUATION CRITERIA: Test print will have to be evaluated after processing the paper.

PERFORMANCE OBJECTIVE: (3-4 class periods)

* TASK/COMPETENCY-- 046. Process color prints.

EQUIPMENT AND SUPPLIES-- Darkroom, timer, thermometer, tube-type processor, color chemicals, color paper, 3 large bottles, 3 large mixing containers, 1 graduate, stirrers, scissors, gloves, apron, 1 large deep tray, squeegee, running water, dial thermometer (optional).

STANDARD OF PERFORMANCE-- Prints should have a correct color balance, satisfactory appearance and proper exposure.

ENABLING OBJECTIVE: Task/Competencies: 035, 036, 038, 039, 044.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 12, "Color Photography". 2. Suggested a. Basic Developing, Printing, Enlarging in Color, Kodak, #AE-13. b. Essentials of Photography, Unit 15, "Color Films and Processes". c. The New Joy of Photography, Part IV, "Processing Color Film".	1. Recommended a. Exploring Photography, Unit 12, "Color Photography". 2. Suggested a. Basic Developing, Printing, Enlarging in Color, Kodak, #AE-13.

SELECTED INSTRUCTIONAL MATERIALS:

1. Same as in the performance objective.
2. Sound Slide Show, "Color Printing from Color Negatives", Kodak Slide/Film Programs.
3. Sound Slide Projector.

ACTIVITIES:

TEACHER	STUDENT
*1. Prepare in the darkroom all materials to process print paper.	*1. Take notes from the discussion and demonstration.
*2. Mix chemicals according to the provided instructions and store in large bottles with labels. Paper and chemicals must correspond. Observe safety rules.	*2. Mix chemicals for processing according to the provided instructions. Store in large bottles with correct labels. Paper and chemicals must correspond. Observe safety rules.
*3. Discuss and demonstrate how to process paper exposed by color negatives and color slides.	*3. Process test prints made from color negatives and slides in the previous exercise (competency 045). Be precise with times and temperatures.
*4. Emphasize the importance of temperature and time in processing.	*4. Dry prints and view for best exposure time and color balance. If color is not true, make the necessary filtration changes by referring to the charts in the recommended or suggested references.
*5. Dry prints and view for best exposure time and color balance. If color is not true, you will need to make filtration changes by referring to the chart in the recommended or suggested references.	*5. Make new prints using the best F-stop and color corrections.
*6. Make a new print using the best F-stop and color corrections.	*6. Submit prints from negatives and slides assigned by the instructor for evaluation. Prints should have a satisfactory color balance, appearance, and proper exposure.
*7. Assign students to process their test print of negatives and slides and make corrections for a final print with correct exposure and color balance.	*7. Hold prints for later use.
*8. Have students to submit several prints from negatives and slides (depending on time and funds) for evaluation.	8. Optional: Make black and white prints from color negatives.
*9. Return prints to students for later use.	9. Optional: a. Printing-in and dodging of prints may be useful for enlarging prints. b. Textured screens can be used to make interesting and unusual prints. c. Print color negatives and slides using Kodak Eletaflex PCT Products.

FINISHING PRINTS AND TRANSPARENCIES

PERFORMANCE OBJECTIVE: (2-3 class period)

* TASK/COMPETENCY-- 047. Retouch negatives and correct prints.

EQUIPMENT AND SUPPLIES-- Kodak spotting colors, brush, palette, cotton, reducer, bleach, potassium ferrocyanide, prints, negatives, light table.

STANDARD OF PERFORMANCE-- Produce an altered image.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. None. 2. Suggested a. Basic Developing, Printing, Enlarging in Color, Kodak, #AE-13. b. The Photographer's Handbook, Second Edition, "Special Darkroom Techniques/Negative Retouching".	1. Recommended a. None. 2. Suggested a. Basic Developing, Printing, Enlarging in Color, Kodak, #AE-13.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
*1. Explain to students the purpose for retouching negatives and prints.	*1. Listen, observe, and take notes from discussion and demonstrations.
*2. Show students negatives and prints that need retouching.	*2. Locate negatives and prints from files that need retouching.
*3. Prepare all materials for basic retouching.	*3. Retouch negatives (large) and prints for a perfected product.
*4. Retouch prints and show the corrected prints to students.	*4. Submit untouched and retouched negatives and prints for evaluation.
*5. Retouch negatives and show the corrected negatives to students. (Large negatives.)	*5. File negatives and prints for future use.
*6. Have students to locate from their files negatives and prints that need retouching.	
*7. Assign students to retouch negatives and prints.	
*8. Collect non-corrected and corrected prints and negatives for evaluation. Return to students.	

PERFORMANCE OBJECTIVE: (2-3 class periods)

* TASK/COMPETENCY-- 048. Mount slides for a slide presentation.

EQUIPMENT AND SUPPLIES-- Slide mounts (cardboard or plastic), scissors, cotton gloves, slides, marker, light table, instructions provided with mounts, slide projector.

STANDARD OF PERFORMANCE-- Produce mounted slides that are not duplicated, dull, blurred, or scratched.

ENABLING OBJECTIVE: Students shall shoot a roll of slide film for a slide presentation. Presentation should be planned and tell an interesting story. Also, film shall be developed.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 15, "How to Display Photographs". 2. Suggested a. The New Joy Of Photography, Part V, "Caring for Photographs".	1. Recommended a. None. 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
*1. Demonstrate proper method of cutting, handling, and mounting slides into mounts. *2. Discuss the various methods and precautions for storing slides. *3. Discuss the method of cleaning slides. *4. Discuss the life expectancy of slides. *5. Assign students to mount a roll of slides for a slide presentation. *6. Have students to submit slides for an evaluation or show slides to class and make the evaluation at that time. *7. Return slides to students.	*1. Listen, observe, and take notes from discussion and demonstrations. *2. Mount a roll of slides for a slide presentation. Slides should not be duplicated, dull, blurred or scratched. *3. Show slides to the class and/or submit to the instructor for an evaluation. *4. Store slides.

FINISHING PRINTS AND TRANSPARENCIES

PERFORMANCE OBJECTIVE: (3-5 class periods)

* TASK/COMPETENCY-- 049. Mount finished prints.

EQUIPMENT AND SUPPLIES-- Tacking iron, mounting board, mounting tissue, prints, white paper, spray adhesive, hard rubber roller, pressure sensitive adhesive, custom frames, foam-core matte board, double-sided tape, scissors, ruler, square, various sizes of plywood or hardboard, paint, stain, felt tip pen, photo album, dry-mounting press or household iron, paper trimmer.

STANDARD OF PERFORMANCE-- Mount prints without flaws according to the evaluation criteria.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 15, "How To Display Photographs". 2. Suggested a. Essentials of Photography, Unit 8, "Enlargement Printing and Mounting". b. Guide To Photography, Chapter 13, "Ways To Grow". c. The New Joy of Photography, Part V, "The Joy". d. Basic Developing, Printing, Enlarging in Color, Kodak, #AE-13.	1. Recommended a. Exploring Photography, Unit 15, "How To Display Photographs". 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
*1. Assign students to read "How to Display Photographs" in the recommended text. *2. Discuss various methods of mounting: dry mounting, spray mounting, wet mounting, framing, cold mounting, photo albums, visible edge mounting. *3. Prepare all materials to demonstrate methods of mounting prints. *4. Demonstrate all methods of mounting prints. Caution students of hazards involved in using dry-mount press. *5. Assign students to mount previously developed prints (black and white and color) by various methods. *6. Have students submit mounted prints for an evaluation. *7. Return mounted prints to students.	*1. Read "How to Display Photographs" in the recommended text. *2. Listen, observe, and take notes from the discussions and demonstrations. *3. Mount previously developed prints (black and white and color) by the various methods. *4. Submit mounted prints without flaws for an evaluation.

EVALUATION CRITERIA:

1. Prints should always be square.
2. Mounting board should not be warped and/or bowed.
3. Mounting tissue should adhere to the print and mounting board.
4. All adhesives should be cleaned up from mounting boards, matte board, etc.

INTRODUCTION TO VIDEO PHOTOGRAPHY

PERFORMANCE OBJECTIVE: (1 class period)

TASK/COMPETENCY-- 050. Identify and discuss types of video cameras.

EQUIPMENT AND SUPPLIES-- Video cameras (various types and configurations), video-cassettes.

STANDARD OF PERFORMANCE-- Identify and discuss 2 types of video cameras and their configurations.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. None. 2. Suggested a. Pocket Guide To Video, "VCk and Tape Formats", Kodak.	1. Recommended a. None. 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
1. Locate a camera shop owner that would be willing to present and discuss the different types and configurations of video cameras. You may video tape this presentation so it is available for all classes at various times. 2. The type of video cameras and video-cassettes to present and discuss are: a. Video Camera with Portable Recorder b. Camcorders The configurations of each type are: a. VHS b. VHS-C c. Beta d. 3/4" e. 8mm 3. Assign students to identify the two types of video cameras and their configurations. Also, identify pros and cons of each type and each configuration. 4. Collect and evaluate assignment.	1. Listen, observe and take notes from the discussion on video cameras. 2. Identify the 2 types of video cameras and their configurations. Also, identify pros and cons of each type and each configuration. 3. Submit assignment for an evaluation.

PERFORMANCE OBJECTIVE: (1 class period)

TASK/COMPETENCY-- 051. Identify and describe the basic parts of a video camera.

EQUIPMENT AND SUPPLIES-- Video cameras, instruction manual for camera.

STANDARD OF PERFORMANCE-- Identify and describe 9 basic parts of a video camera.

ENABLING OBJECTIVE: Task/Competency: 050.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. None. 2. Suggested a. Pocket Guide to Video, "The Video Camera", Kodak.	1. Recommended a. None. 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
1. Read "The Video Camera" in the suggested reference and/or read the video camera's instruction manual. 2. Identify and describe the parts of the type video camera you will be using in class. Example: a. Lens b. Start/Stop Switch c. Microphone d. Battery e. Shoulder Support f. Tape Control g. Viewfinder h. Cassette Door i. White Balance The camera's instruction manual should be used to identify and describe all operating parts for that particular camera. 3. Allow students to become familiar with the location and operation of the parts on the cameras. 4. Assign students to identify and define the parts of the cameras being used in class. 5. Collect the assignments from the students and evaluate.	1. Listen, observe and take notes from the discussion and demonstration. 2. Become familiar with the location and operation of the camera's parts. 3. Identify and describe 9 basic parts of the video camera. 4. Submit assignment for an evaluation.

INTRODUCTION TO VIDEO PHOTOGRAPHY

PERFORMANCE OBJECTIVE: (2 class periods)

TASK/COMPETENCY-- 052. Explain basic video camera handling.

EQUIPMENT AND SUPPLIES-- Video cameras, camera instruction manual, video cassettes.

STANDARD OF PERFORMANCE-- Identify and explain 10 video camera handling techniques.

ENABLING OBJECTIVE:

REFERENCES:

TEACHER	STUDENT
1. Recommended a. None. 2. Suggested a. Pocket Guide To Video, "The Video Camera", Kodak.	1. Recommended a. None. 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

2. Video Tape, "Home Guide To Videography".

3. Monitor/TV

4. Videocassette Player (VHS)

ACTIVITIES:

TEACHER	STUDENT
1. Read "The Video Camera" in the suggested reference and/or the camera's instruction manual for camera operation. 2. Show video tape "Home Guide to Videography." 3. Make additional copies of the camera's instruction manual for students to use. 4. Discuss and demonstrate camera handling techniques such as: A. Safety B. Using various power sources C. Charging battery packs D. Loading/unloading the video-cassette E. Using accessories F. White balance adjustment G. Focusing H. Zooming I. Exposure adjustment J. Good recording techniques: a. Make test recordings b. Use auto focus liberally c. Steady your position d. Move the camera slowly e. Use the microphone accurately	1. Watch video tape "Home Guide to Videography". 2. Listen, observe, and take notes from the teacher's discussion and demonstration. 3. Review the camera's instruction manual for proper use. 4. Practice using good camera handling techniques while recording simple classroom scenes. Practice playback. 5. Identify and explain 10 video camera-handling techniques. 6. Submit assignment for an evaluation.

TEACHER	STUDENT
continued: f. Use continuity g. In-camera editing 5. Allow students to practice the camera handling techniques they have observed by recording simple classroom scenes. Demonstrate playback. Allow students to practice playback. 6. Give students the assignment to identify and explain 10 video camera-handling techniques. 7. Collect the assignment and evaluate.	

PERFORMANCE OBJECTIVE: (2 class periods)

TASK/COMPETENCY--053. Develop a storyboard.

EQUIPMENT AND SUPPLIES-- Index cards (4" x 6")

STANDARD OF PERFORMANCE-- Make planning cards in preparation for producing a simple movie story.

ENABLING OBJECTIVE: Have a script available to develop a storyboard.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. None. 2. Suggested a. Outline for Teaching a Course in Basic Moviemaking, Kodak Customer Service Pamphlet, #AT-106.	1. Recommended a. None. 2 Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
1. Have the students make planning cards in preparation for producing a simple movie story (approximately 30 minutes). Explain that planning cards form an outline for the story: each card describes an important scene, and the sequence on the cards indicates roughly the order in which the scenes are to be shot. On each card the student should indicate the following information: a. The order of a scene in reference to the others. For example, the scene in question may be the second scene in the movie. The planning card for this scene should be marked Scene 2. b. What the scene will show. c. Whether this scene is a close-up, medium, or long shot. d. What the background will be. e. The message of this scene - what the scene is intended to communicate. f. How long the scene will be. g. The audio message (script), if required. h. Actors to be used. 2. Optional: students may develop more than one movie if time is available.	1. Make planning cards in preparation for producing a simple movie story. 2. On each card indicate the following information: a. The order of a scene in reference to the others. For example, the scene in question may be the second scene in the movie. The planning card for this should be marked Scene 2. b. What the scene will show. Use stick figures to illustrate the scene. c. Whether this scene is a close-up, medium, or long shot. d. What the background will be. e. The message of this scene - what the scene is intended to communicate. f. How long the scene will be. g. The audio message (script), if required. h. Actors to be used. 3. Submit the storyboard to the teacher for an evaluation.

INTRODUCTION TO VIDEO PHOTOGRAPHY

PERFORMANCE OBJECTIVE: (4 class periods)

TASK/COMPETENCY-- 054. Shoot a video tape production.

EQUIPMENT AND SUPPLIES-- Video cameras, instruction manual for camera, video-cassettes, camera accessories, planning cards, specific supplies for movie.

STANDARD OF PERFORMANCE-- Produce an unedited video tape production (movie).

ENABLING OBJECTIVE: Task/competency: 050, 051, 052, 053.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. None. 2. Suggested a. Pocket Guide to Video, "The Video Camera", Kodak.	1. Recommended a. None. 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

2. Monitor/TV and videocassette recorder.

ACTIVITIES:

TEACHER	STUDENT
1. Have students to review material from previous tasks/competencies #051, 052, 053. 2. Have students to set up and practice each scene from the planning cards before shooting the movie. Make any necessary corrections on the planning cards. 3. Students will need to dress their parts if acting in the movie. 4. Have students begin shooting the scenes. Each student shall shoot a scene for an evaluation on using the video camera for producing movies. 5. Have students to make up a title and lay it out so that it can be filmed and edited in the movie later. If camera has a character generator, this may also be used. 6. View the film on the Monitor/TV for evaluating each student's use of a video camera. 7. Optional: Students may develop other scripts and storyboards for additional movies to film. They may also video school plays, speeches, interviews, etc., that may not require a storyboard.	1. Review materials from previous task/ competencies #051, 052, 053. 2. Set up and practice the scenes for the movie being produced. Make any necessary corrections. 3. Students will need to dress their parts if they are acting in the movie. 4. Each student is responsible for shooting a scene for an evaluation on using a video camera for producing movies. 5. Make up a title and lay it out so that it can be filmed and edited in the movie later. If camera has a character generator, this may also be used. 6. Submit the videocassette of the movie to the instructor for an evaluation.

PERFORMANCE OBJECTIVE: (2 class periods)

TASK/COMPETENCY-- 055. Edit film.

EQUIPMENT AND SUPPLIES-- Videocassettes of movie produced; planning cards; 2 televisions; 2 VCRs (some video recorders can be used as a VCR and TV); blank videocassettes; instruction manual for the video camera, VCRs, and TVs.

STANDARD OF PERFORMANCE-- Produce a movie that has been edited according to the evaluation criteria.

ENABLING OBJECTIVE: Task/Competency: 054.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. None. 2. Suggested a. Pocket Guide to Video, "Post Production Editing", Kodak.	1. Recommended a. None. 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
1. Explain the purpose of editing to the students. 2. Hook up the source recorder and Monitor/TV, then the recording VCR and Monitor/TV. Use instruction manuals to assist in the proper hookups. 3. Duplicate copies of the videocassette movie. Then using one of the duplicate tapes, show the movie to the students. Let the students decide the order of shots for the edited version (with title at the beginning of the movie). Use the planning cards to assist in editing and write down the numbers on the counter where each scene begins. Eliminate scenes as described in the evaluation criteria. 4. Record the scenes in the order chosen by students using the recording VCR. Use the pause control to stop both VCRs, as in continuity editing. Use the instruction manuals to assist in recording. 5. Give students a copy of the videocassette movie and let them edit it individually. Students may also edit any additional movies produced. 6. Collect editing work for evaluation.	1. Listen, observe, and take notes from the discussion and demonstration on film editing. 2. Assist in selecting the order of shots in the version of the movie being edited by the instructor. 3. Edit a copy of the movie produced in class or any additional movies produced. 4. Submit work to the instructor for evaluation.

EVALUATION CRITERIA: Edit scenes that are: too long, repetitious, out of focus, noncontributing to the story, underexposed or overexposed, and unrelated episodes.

INTRODUCTION TO MOTION PICTURE PHOTOGRAPHY

PERFORMANCE OBJECTIVE: (1 class period)

TASK/COMPETENCY-- 056. Identify and describe the parts of an 8mm, 16mm, Super 8mm movie camera.

EQUIPMENT AND SUPPLIES-- Camera (8mm, Super 8mm, or 16mm), instruction manual for camera, film.

STANDARD OF PERFORMANCE-- Identify and describe the 5 main parts of a movie camera.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 14, "Motion Pictures". 2. Suggested a. Questions and Answers About Kodak Super 8 Movie Films, Kodak Customer Service Pamphlet, #AD-1. b. Getting the Most Out of Your 8mm Film: Rolls and Magazines, Kodak Customer Service Pamphlet, #AD-21.	1. Recommended a. Exploring Photography, Unit 14, "Motion Pictures". 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
1. Have students to read "Motion Pictures" unit in the recommended text. 2. Show students the 3 types of movie cameras. (8mm, 16mm, Super 8mm) 3. Explain briefly how movie cameras work and where they are used. 4. Identify and define the five main parts of a camera (lens, viewing system, focus control, exposure control, power system) and other important operational parts. Include loading and unloading film. 5. Use instruction manual with movie cameras to identify any special features or instructions. Handouts should be made with specific instructions on the use of the cameras. This can be developed from the instruction manuals. 6. Have students to practice loading and unloading film in the camera. Also have them to identify and describe the 5 main parts of the movie camera.	1. Read the "Motion Picture" unit in the recommended text. 2. Observe and take notes from the demonstrations. 3. Study the instruction manuals for the particular cameras to be used in class. 4. Practice loading and unloading film in cameras. 5. Identify and describe the 5 main parts of the movie camera.

INTRODUCTION TO MOTION PICTURE PHOTOGRAPHY

PERFORMANCE OBJECTIVE: (1 class period)

TASK/COMPETENCY--057. Explain basic motion picture camera handling.

EQUIPMENT AND SUPPLIES-- Cameras (8mm, Super 8mm, or 16mm), camera instruction manual, and film.

STANDARD OF PERFORMANCE-- Identify and explain 10 camera-handling techniques.

ENABLING OBJECTIVE: Task/Competency: 056.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 14, "Motion Pictures". 2. Suggested a. Better Movies in Minutes, Kodak Photo Book, #AD-4. b. Making a Movie, Kodak Customer Service Pamphlet, #AD-10.	1. Recommended a. Exploring Photography, Unit 14, "Motion Pictures". 2. Suggested a. Better Movies in Minutes, Kodak Photo Book, #AD-4. b. Making a Movie, Kodak Customer Service Pamphlet, #AD-10.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

2. Video tape, "Home Guide To Videography", CBS Fox.

ACTIVITIES:

TEACHER	STUDENT
1. Have students read "Motion Pictures unit in the recommended text. 2. Read camera's instruction manual for additional instruction manual for handling techniques. Reproduce instructions for students. 3. Discuss and demonstrate camera handling techniques such as: a. Demonstrate: cleaning lens focusing steadying camera zooming panning using correct exposure recording sound b. Discuss: recognizing good pictures continuity scene lengths angles composition 4. Show videotape "Home Guide to Videography", CBS Fox.	1. Read "Motion Pictures" unit in the recommended text. 2. Listen, observe, and take notes from the instructor's lecture and demonstration on camera-handling techniques. 3. Study camera's instruction manual. 4. Watch videotape, "Home Guide to Videography", CBS Fox. 5. Identify and explain 10 camera - handling techniques suggested by the instructor. 6. Practice techniques using the camera around the school.

TEACHER	STUDENT
continued: 5. Have students to explain 10 camera handling techniques and allow them to experiment recording with the camera. 6. Have film developed. 7. Show film to class after it is developed.	

PERFORMANCE OBJECTIVE: (3 class periods)

TASK/COMPETENCY-- 058. Develop a storyboard to film a movie.

EQUIPMENT AND SUPPLIES-- Index cards (4" x 6").

STANDARD OF PERFORMANCE-- Make planning cards in preparation for producing a simple movie story.

ENABLING OBJECTIVE: Have a script available to develop a storyboard.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. None. 2. Suggested a. Outline for Teaching a Course in Basic Moviemaking, Kodak Customer Service Pamphlet, #AT-106.	1. Recommended a. None. 2. Suggested a. None.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
1. Have the students make planning cards in preparation for producing a simple movie story (one roll or cartridge of film). Explain that planning cards form an outline for the story: each card describes an important scene, and the sequence of the cards indicates roughly the order in which the scenes are to be shot. The average movie made on one roll or cartridge of film will have about 20 scenes. Therefore, students will need about 20 planning cards for the movie. On each card the student should indicate the following information: a. The order of a scene in reference to the others. For example, the planning card for the second scene in the movie should be marked Scene 2. b. What the scene will show. The students should draw stick figures to illustrate the scene. c. Whether this scene is a close-up, medium, or long shot. d. What the background will be. e. The visual message of this scene - what the scene is intended to communicate. f. How long the scene will be. g. The audio message (script), if required. h. Actors to be used. 2. Optional: Students may develop more than one movie if time is available.	1. Make planning cards in preparation for producing a simple movie story. 2. On each card indicate the following information: a. The order of a scene in reference to the others. For example, the scene in question may be the second scene in the movie. The planning card for this scene should be marked Scene 2. b. What the scene will show. Use stick figures to illustrate the scene. c. Whether this scene is a close-up, medium, or long shot. d. What the background will be. e. The visual message of this scene - what the scene is intended to communicate. f. How long the scene will be. g. The audio message (script), if required. h. Actors to be used. 3. Submit storyboard to teacher for evaluation.

INTRODUCTION TO MOTION PICTURE PHOTOGRAPHY

PERFORMANCE OBJECTIVE: (3 class periods)

TASK/COMPETENCY-- 059. Demonstrate filmmaking techniques using movie camera and equipment.

EQUIPMENT AND SUPPLIES-- Cameras (8mm, Super 8mm, or 16mm), instruction manual for camera, film, external microphone, planning cards, specific supplies needed for the movie being produced.

STANDARD OF PERFORMANCE- Produce an unedited motion picture.

ENABLING OBJECTIVE: Task/Competency: 056, 057, 058.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. None. 2. Suggested a. Better Movies in Minutes, Kodak Photo Book, #AD-4.	1. Recommended a. None. 2. Suggested a. Better Movies in Minutes, Kodak Photo Book, #AD-4.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
1. Have students review material from previous tasks #056, 057, 058 and the Kodak Photo Book, "Better Movies in Minutes". 2. Have students to set up and practice each scene before shooting the movie. Make any necessary corrections. 3. Students will need to dress their parts if acting in the movies. 4. Have students to begin shooting the scenes. Each student shall shoot a scene for an evaluation on using the movie camera for producing movies. 5. Have film processed. 6. View the film for evaluating each student's use of a video camera. 7. Optional: Students may develop more than one movie if time is available. Also, an animated film could be made.	1. Review materials from previous tasks #056, 057, 058 and the Kodak Photo Book, "Better Movies in Minutes". 2. Set up and practice the scenes for the movie being produced. Make any necessary corrections. 3. Students will need to dress their parts if they are acting in the movie. 4. Each student is responsible for shooting a scene for an evaluation or using the movie camera for producing movies. 5. Submit film to the instructor for an evaluation.

PERFORMANCE OBJECTIVE: (3 class periods)

TASK/COMPETENCY-- 060. Edit film.

EQUIPMENT AND SUPPLIES-- Pressure-sensitive film, splicing tape, splicer, film/movie projector, unedited movie, projection screen.

STANDARD OF PERFORMANCE-- Produce a movie that has been edited according to the evaluation criteria.

ENABLING OBJECTIVE: Task/Competency: 059.

REFERENCES:

TEACHER	STUDENT
1. Recommended a. Exploring Photography, Unit 14, "Motion Pictures". 2. Suggested a. Better Movies in Minutes, Kodak Photo Book, #AD-4. b. Editing and Caring for Your Processed Kodak Movie Films, Kodak Customer Service Pamphlet, #AD-10.	1. Recommended a. Exploring Photography, Unit 14, "Motion Pictures". 2. Suggested a. Better Movies in Minutes, Kodak Photo Book, #AD-4.

SELECTED INSTRUCTIONAL MATERIALS: 1. Same as in the performance objective.

ACTIVITIES:

TEACHER	STUDENT
1. Have students read the "Motion Pictures" unit in the recommended text. 2. Explain the purpose of editing to the students. 3. Show the movie produced in task/ competency #059 to the students. Discuss with students scenes to be cut and have them keep notes. 4. Demonstrate how to use a splicer from the instruction manual included with the splicer. 5. Have students edit their movies so they can be projected within a 20- to 30-minute period. (If sound is used, be careful not to eliminate it from the scenes.) 6. Have students project the movie for overall evaluation.	1. Read the unit "Motion Pictures" in the recommended text. 2. Listen, observe, and take notes from the discussion and demonstration on film editing. 3. Watch movie produced in task/ competency #059. Discuss which scenes may need editing and take notes. 4. Edit movie so that it can be projected within a 20- to 30-minute period. (If sound is used, be careful not to eliminate it from the scenes.) 5. Project the movie for overall evaluation from the instructor.

EVALUATION CRITERIA: Edit scenes that are: too long, repetitious, out of focus, non-contributing to the story, under- or over-exposed and unrelated episodes.

APPENDICES

Appendix A -- Course Outline

Appendix B -- Definition of Terms

Appendix C -- Tool and Equipment List

Appendix D -- Supply List

Appendix E -- Bibliography

Appendix F -- Facility Layout

APPENDIX A

PHOTOGRAPHIC PROCESSES

COURSE OUTLINE

		Suggested Time 18 weeks	36 weeks
I.	Orientation	6 days	- 7 days
	A. History		
	B. Photographic Images		
	C. Career Opportunities		
	D. Technological Advances		
	E. General Safety		
II.	Camera	9 days	- 16 days
	A. Types		
	B. Basic Operational Parts		
	C. Inner and Outer Parts		
	D. Lenses		
	E. Handling		
	F. Film Loading and Unloading		
III.	Film	4 days	- 8 days
	A. Chemical Make-Up		
	B. Reaction To Light		
	C. Types and Speeds		
	D. Care		
IV.	Picture-Taking Techniques	10 days	- 17 days
	A. Elements of a Photograph		
	B. Use of Filters		
	C. Use of Lighting Accessories		
	D. Still Images		
	E. Action Scenes		

		Suggested Time 18 Weeks	36 Weeks
V.	Advanced Picture-Taking Techniques	9 days	- 16 days
	A. Studio Photography		
	B. In-Camera Multiple Exposures		
	C. Time Exposures		
	D. Creative Controls		
	E. Newly Developed Films		
	F. Close-up Photography		
	G. Photomacrography		
	H. Photomicrography		
VI.	Processing Black and White Film	9 days	- 16 days
	A. Develop Film into Negatives		
	B. Maintain a Negative File		
VII.	Print and Process Paper	27 days	- 53 days
	A. Characteristics of Paper		
	B. Use Darkroom Equipment		
	C. Produce Enlargements and Reductions		
	D. Use Contrast Filters		
	E. Perform Print Manipulation Techniques		
VIII.	Color Techniques and Procedures	9 days	- 13 days
	A. Develop Film into Negatives or Positives		
	B. Expose and Process Prints		
IX.	Finishing Prints and Transparencies	7 days	- 11 days
	A. Retouching		
	B. Mounting		

	Suggested Time	
	18 Weeks	36 Weeks
X. Video Photography		- 12 days
A. Equipment		
B. Parts of Cameras		
C. Camera Handling		
D. Develop a Storyboard		
E. Shoot a Video Tape Production		
F. Edit Films		
XI. Motion Picture Photography		- 11 days
A. Parts of Movie Cameras		
B. Camera Handling		
C. Develop a Storyboard		
D. Perform Filmmaking Techniques		
E. Edit Films		

APPENDIX B

PHOTOGRAPHIC PROCESSES

DEFINITION OF TERMS

8mm	a tape format 8mm wide.
16mm	a tape format 16mm wide.
Action	the movement of the subject within the camera field of view.
Adjustable camera	a camera with manually adjustable distance settings, lens opening, and/or shutter speeds.
Adjustable-focus lens	a lens that has adjustable distance settings.
Agitation	the process of keeping the developer, stop bath, or fixer in gentle motion while processing film or paper. Agitation speeds and evens development and helps prevent spotting or staining.
Angle of view	the portion of a scene that is observed through a camera lens. The width of this wedge-shaped portion is determined by the focal length of the lens. A wide-angle (short focal length) lens includes more of the scene -- a wider angle of view -- than does a normal (normal focal length) or telephoto (long focal length) lens.
Animation	the process of making inanimate objects appear mobile. This can be done by exposing one or two frames of movie film and then moving the objects slightly and exposing one or two more frames, etc. When the movie is projected, the objects will appear animated.
Aperture	lens opening. The opening in a lens system through which light passes. The size of aperture is either fixed or adjustable. Lens openings are usually calibrated in f-numbers.
ASA	American Standards Association. The speed rating of film or its sensitivity to light.
Assemble edit	rearranging recorded scenes into a new sequence.
Automatic camera	a camera with a built-in exposure meter that automatically adjusts the lens opening, shutter speed, or both for proper exposure.
Auto winder	a film wind-on unit which automatically advances the film one frame each time the shutter is released.

Background	the part of the scene that appears behind the principal subject of the picture.
Backlighting	lighting which comes from behind the subject. This lighting may affect exposure readings.
Balance	placement of colors, light and dark masses, or large and small objects in a picture to create harmony and equilibrium.
Balance stripe	a magnetic stripe on the edge of the film opposite the magnetic track. Although the purpose of the stripe is to keep the film level on the reel, some projectors also use it for recording.
Barn doors	item used for controlling the width of the beam and direction of light on spotlights and floodlamps.
Bellows	the folding portion in some cameras that connects the lens to the camera body.
Beta	a ½-inch video cassette format.
Between-the-lens shutter	a shutter whose blades operate between two elements of the lens.
Bleach	chemical bath used for rehalogenizing black metallic silver.
Blowup	an enlargement; a print that is made larger than the negative or slide.
Blurring	an unsharp image caused by movement of the subject or camera, or by inaccurate focusing.
Bounce lighting	flash or tungsten light bounced off the ceiling or walls to give the effect of natural or available light.
Box camera	the simplest type camera produced which consists of a simple, single element lens, a light-tight box, and place for film.
Bulk film	long lengths of film used with a bulk film loader or with a bulk camera back.
Burning-in	giving additional exposure to part of the image projected on an enlarger easel to make that area of the print darker. This is accomplished after the basic exposure by extending the exposure time to allow additional image-forming light to strike the areas in the print you want to darken while holding back the image-forming light from the rest of the image. Sometimes called printing-in.
Camcorder	combined videocamera and video recorder.

Camera angles	various positions of the camera (high, medium, or low; and left, right, or straight-on) with respect to the subject, each giving a different view point or effect.
Candid pictures	unposed pictures, often taken without the subject's knowledge. These usually appear more natural and relaxed than posed pictures.
Cartridge	a light-tight, factory-loaded film container that can be placed in and removed from the camera in daylight.
Changing bag	light-tight fabric bag where light sensitive photographic materials can be safely handled.
Character generator	a device used in video recording to generate titles or text.
Clearing agent	a chemical that neutralizes hypo in film or paper, reducing washing time and helping to provide a more stable image.
Close-up	a picture taken with the camera close to the subject.
Close-up lens	a lens attachment placed in front of a camera lens to permit taking pictures at a shorter distance than the camera lens alone will allow.
Coated lens	a lens covered with a very thin layer of transparent material that reduces the amount of light reflected by the surface of the lens. A coated lens is faster (transmits more light) than an uncoated lens.
Color balance	the ability of a film to reproduce the colors of a scene. Color films are balanced in manufacture for exposure to light of a certain color quality: daylight, tungsten, etc. Color balance also refers to the reproduction of colors in color prints, which can be altered during the printing process.
Composition	the arrangement of all elements in a picture: main subject, foreground, background, and supporting subjects.
Condenser enlarger	an enlarger with a sharp, undiffused light that produces high contrast and high definition in a print. Scratches and blemishes in the negative are emphasized.
Contact print	a print made by exposing photographic paper while it is held tightly against the negative. Images in the print will be the same size as those in the negative.
Continuity	the smooth flow of action or events from one shot or sequence to the next.
Contrast	the density range of a negative, print, or slide; the brightness range of a subject or the scene lighting.

Contrast grade	number (usually 1-5) and names (soft, medium, hard, extra-hard, and ultrahard) of the contrast grades of photographic papers, to enable you to get good prints from negatives of different contrasts. Use a low-numbered or soft-contrast paper with a high-contrast negative to get a print that most closely resembles the original scene. Use a high-numbered or an extra-hard paper with a low-contrast to get a normal contrast print.
Contrasty	higher-than-normal contrast. The range of density in a negative or print is higher than it was in the original scene.
Cropping	printing only part of the image that is in the negative or slide. Used to eliminate excess background or improve balance.
Cut	the instantaneous change from one scene to another.
Darkroom	a light-tight area used for processing films and for printing and processing papers; also, for loading and unloading film holders and some cameras.
Definition	clarity of detail in a photograph.
Densitometer	an instrument for measuring the optical density of an area in a negative or print.
Density	the blackness of an area in a negative or print that determines the amount of light that will pass through it or reflect from it.
Depth of field	the distance range between the nearest and farthest objects that appear in acceptably sharp focus in a photograph. Depth of field depends on the lens opening, the focal length of the lens, and the distance from the lens to the subject.
Depth of focus	the distance range over which the film could be shifted at the film plane inside the camera and still have the subject appear in sharp focus; often misused to mean depth of field.
Developer	a solution used to turn the latent image into a visible image on exposed films or photographic papers.
Developing tank	a light-tight container used for processing film.
Diaphragm	lens opening. A perforated plate or adjustable opening mounted behind or between the elements of a lens used to control the amount of light that reaches the film. Openings are usually calibrated in f-numbers.
Diffusing	softening detail in a print with a diffusion disk or other material that scatters light.

Diffusion disk	a flat glass with a pattern of lines or concentric rings that scatters light from an enlarger lens and softens detail in a print.
Diffusion-condenser	an enlarger that combines diffused light with a condenser system, producing more contrast and sharper detail than a diffusion enlarger but less contrast and blemish emphasis than a condenser enlarger.
Diffusion enlarger	an enlarger that scatters light before it strikes the negative, distributing light evenly on the negative. Detail is not as sharp as with a condenser enlarger; negative blemishes are minimized.
Dodging	holding back the image-forming light from a part of the image projected on an enlarger easel during part of the basic exposure time to make that area of the print lighter.
Double exposure	two pictures taken on one frame of film, or two images printed on one piece of photographic paper.
Double-system sound	the recording of sound and picture on separate strips of film so that they can be synchronized in the editing process.
Dry mounting	print mounting by heating shellac tissue between the print and the mounting surface.
Easel	a device to hold photographic paper flat during exposure, usually equipped with an adjustable metal mask for framing.
Editing	the process of selecting the shots and sequences that will be included in the final film, their length, and the order in which they will appear. Also, selecting slides for a slide show.
Emulsion	a thin coating of light-sensitive material, usually silver halide in gelatin, in which the image is formed on film and photographic papers.
Emulsion side	the side of the film coated with emulsion. In contact printing and enlarging, the emulsion side of the film (dull side) should face the emulsion side of the photo paper (shiny side).
Enlargement	a print that is larger than the negative or slide; blowup.
Enlarger	a device consisting of a light source, a negative holder, and a lens, and means of adjusting these to project an enlarged image from a negative onto a sheet of photographic paper.

Etching	scraping black spots off a print or negative with a special knife.
Existing light	available light. Strictly speaking, existing light covers all natural lighting from moonlight to sunshine. For photographic purposes, existing light comprises the light that is already on the scene or project and includes room lamps, fluorescent lamps, spotlights, neon signs, candles, daylight through windows, outdoor scenes at twilight or in moonlight, and scenes artificially illuminated after dark.
Exposure	the quantity of light allowed to act on a photographic material; a product of the intensity (controlled by the lens opening) and the duration (controlled by the shutter speed or enlarging time) of light striking the film or paper.
Exposure latitude	the range of camera exposures, from underexposure to overexposure, that produce acceptable pictures from a specific film.
Exposure meter	an instrument with a light-sensitive cell that measures the light reflected from or falling on a subject; used as an aide to selecting the exposure setting. The same as a light meter.
Exposure setting	the lens opening plus shutter speed selected to expose the film.
Extension tube	metal tubes used to extend lens for magnification.
Fade-in	a motion picture exposure effect whereby an image gradually appears out of a uniformly dark field. The effect can be produced either in the camera or in printing.
Fade-out	a motion picture exposure effect whereby the lightness and contrast of an image gradually decrease until the image disappears into a uniformly dark field. The effect can be produced either in the camera or in printing.
Fast motion	action on the screen that is faster than the action that was photographed. If your camera has a selection of frames per second at which it will operate, you can create this effect by exposing the film at slower-than-normal rate (for example, at 12 frames per second rather than the normal 18 frames per second) and then projecting the film at the normal rate (18 frames per second).
Fill-in light	auxiliary light from a lamp or reflector used to soften or fill in the shadows or dark picture areas caused by the main light source.

Film	a photographic emulsion coated on a flexible transparent plastic base.
Film leader	a length of protective film at the beginning of a roll of unexposed or processed film.
Film speed	the sensitivity of a given film to light, indicated by a number such as ISO 200; the higher the number, the more sensitive or faster the film. **Note:** ISO stands for International Standardization Organization.
Filter	a colored piece of glass or other transparent material used over the lens to emphasize, eliminate, or change the color or density of the entire scene or certain elements in the scene.
Finder	a viewing device on a camera used to show the subject area that will be recorded on the film. Also known as viewfinder and projected frame.
Fixed-focus lens	a lens that has been focused in a fixed position by the manufacturer. The user does not have to adjust the focus of this lens.
Fixing bath	a solution that removes any light-sensitive silver-halide crystals not acted upon by light or developer, leaving a black and white negative or print unalterable by further action of light.
Flash	a brief, intense burst of light from a flashbulb or an electronic flash unit, usually used where the lighting on the scene is inadequate for picture-taking.
Flashback	a scene or sequence inserted into a movie to reestablish or recall an earlier situation.
Flat	too low in contrast. The range in density in a negative or print is too short.
Flat lighting	lighting that produces very little contrast or modeling on the subject and a minimum of shadows.
f-number	a number used to indicate the size and light-passing ability of the lens opening on most adjustable cameras. Common f-numbers are F/2.8, f/5.6, f/8, f/11, f/16, and f/22. The larger the f-number, the smaller the lens opening. In this series, f/2.8 is the largest lens opening and f/22 is the smallest. These numbers indicate the ratio of the focal length of the lens to the effective diameter of the lens opening; f-numbers assist is achieving correct exposure.

Focal length	the distance from the lens to a point behind the lens where light rays are focused when the distance scale is set on infinity. Focal length determines image size at a given lens-to-subject distance.
Focal-plane shutter	an opaque curtain containing a slit that moves directly across in front of the film in a camera and allows image-forming light to strike the film.
Focus	adjustment of the distance setting on a lens to define the subject sharply.
Fogging	darkening or discoloring of a negative or print or lightening or discoloring of a slide caused by: (1) exposure to nonimage-forming light to which the photographic material is sensitive, (2) too much handling in air during development, (3) overdevelopment, (4) outdated film or paper, or (5) storage of film or paper in a hot, humid place.
Forced development	(See Push-processing.)
Foreground	the area between the camera and the principal subject.
Frame	one individual picture on motion picture film. Tree branch, arch, etc., that frames a subject.
Frontlighting	light shining on the subject from the direction of the camera.
Graininess	the sandlike or granular appearance of a negative, print, or slide resulting from the clumping of silver grains during development of the film. Graininess becomes more pronounced with faster film, increased density in the negative, and degree of enlargement.
High contrast	a wide range of density in a print or negative.
Highlights	the brightest areas of a subject and the corresponding areas in a negative, a print, or a slide.
Hyperfocal distance	distance of the nearest object in a scene that is acceptably sharp when the lens is focused on infinity.
Hypo	the name for a fixing bath made from sodium thiosulfate, other chemicals, and water; often used as a synonym for fixing bath.
Iris	a diaphragm adjustable to vary the diameter of a central aperture, used to adjust the light admitted to a lens.
ISO	International Standardization Organization. The rating of film speed or sensitivity to light.

Key light	studio light used to regulate the tonal level for a specific area of a subject.
Latent image	the invisible image left by the action of light on photographic film or paper. The light changes the photosensitive salts to varying degrees depending on the amount of light striking them. When processed, this latent image will become a visible image either in reversed tones (as in a negative) or in positive tones (as in a color slide).
Lens	one or more pieces of optical glass or similar material designed to collect and focus rays of light to form a sharp image on the film, paper, or projection screen.
Lens speed	the largest lens opening (smallest f-number) at which a lens can be set. A fast lens transmits more light and has a larger opening than a slow lens.
Lighting	the illumination falling on a subject, particularly the direction or arrangement of the illumination.
Light meter	(See **Exposure meter.**)
Location	the place where you are filming your movie or any part of it.
Long shot	a scene taken from a relatively long distance. The main subject usually appears relatively small in respect to the entire frame size. In movies, a long shot is often used to establish the location and setting.
Magazine	a light-tight metal container that holds either 135 film (cylindrical magazine) or 8 mm and 16 mm film (rectangular magazine). These magazines are factory-loaded and sealed.
Magnetic track	a magnetic-oxide coating on one margin of film used for sound recording. Sound is reproduced from this track when the film is projected. Also called sound stripe.
Medium shot	a picture or movie made about halfway between a long and close-up shot to simulate normal viewing distance.
Motor drive	automatic film wind-on device attached to the camera body. Wind or rate varies between 1 and 6 frames per second.
Movie light	a lighting unit with one or more lamps used to make indoor movies.
Negative	the developed film that contains a reversed-tone image of the original scene.

Negative holder	a device designed to hold the negative in proper position in an enlarger.
Normal lens	a lens that makes the image in a photograph appear in perspective similar to that of the original scene. A normal lens has a shorter focal length and a wider field of view than a telephoto lens and a longer focal length and narrower field of view than a wide-angle lens.
Obscura	dark hole/chamber.
Ortho (orthochromatic)	denotes film sensitive to blue and green light.
Overexposure	a condition in which too much light reaches the film producing a dense negative or a washed-out print or slide.
Panning	moving the camera so that the image of a moving object remains in the same relative position in the viewfinder as you take a picture. Also moving a movie camera in a horizontal or vertical plane while taking movies for a panorama effect. Panning should be used sparingly.
Pan (panchromatic, adj)	designation of films that record all colors in tones of about the same relative brightness as the human eye sees in the original scene; sensitive to all visible wavelengths.
Panorama	a broad view, usually scenic.
Parallax	at close subject distances, the difference between the field of view seen through the viewfinder and that recorded on the film. This is due to the separation between the viewfinder and the lens. There is no parallax with single-lens reflex cameras, because when you look through the viewfinder, your are viewing the subject through the picture-taking lens.
Perforations	regularly and accurately spaced holes punched along the length of 35 mm film for still cameras and all motion picture film to transport the film through the camera or movie projector.
Photomacrography	extreme close-up in which images are larger than the original subject.
Photomicrography	photographing subjects by attaching a camera to a microscope.
Planning cards	pieces of paper (i.e., 4 x 6-inch index cards) used to plan a movie or a photo story. Each card represents one picture, one shot, or one scene. A rough sketch of the shot and any pertinent information like location, camera angle, camera-to-subject distance, and message can be put on the card.

Plot	the relationship of incidents, situations, and events that forms the basis for a story.
Positive	the opposite of a negative; an image with the same tonal relationships as those in the original scene -- for example, a finished print or a slide.
Print	a positive picture, usually on paper, and usually produced from a negative; a copy of a motion picture.
Printing box	a device used for contact-printing that consists of a light-tight box with an internal light source and a frame to position the negative against the photographic paper in front of the light. It contains an adjustable mask to create a white border on the prints.
Printing frame	a device used for contact-printing that holds a negative against the photographic paper. The paper is exposed by light from an external light source.
Printing-in	(See Burning-in.)
Prism	transparent medium used for bending light to varying degrees.
Processing	a procedure during which exposed photographic film or paper is developed, fixed, and washed to produce either a negative or a positive image.
Projection print scale	used to make test prints, may be used in place of a test strip. It includes sections of different densities which relate to exposure time.
Proof sheet	an actual size print with all the negatives on a roll of film.
Push-processing	increasing the development time of a film to increase its effective speed (raising the ISO number for initial exposure) for low-light situations; forced development.
Rangefinder	a device included on many cameras as an aid in focusing.
Reducer	a solution which will remove silver from negatives or prints.
Reflector	any device used to reflect light onto a subject.
Reflex camera	a camera in which the scene to be photographed is reflected by a mirror onto a glass where it can be focused and composed. In a reflex movie camera or a single-lens reflex (SLR) camera, the scene is viewed through the same lens that takes the picture, thus avoiding parallax. With a twin-lens reflex (TLR) camera, the scene is viewed through the top lens, and the picture is taken through the bottom lens.

Retake	footage re-filmed at any time after the first filming.
Reticulation	cracking or distorting of the emulsion during processing, usually caused by wide temperature variations or chemical-activity differences between the solutions.
Retouching	altering a print or negative after development by use of dyes or pencils to alter tones of highlights, shadows, and other details, or to remove blemishes.
Safelight	an enclosed darkroom lamp fitted with a filter to screen out light rays to which film and paper are sensitive.
Scene	one or more shots made of the same subject(s) at the same location at the same time.
Script	a set of written specifications for the production of a film or slide show.
Selective focus	choosing a lens opening that produces a shallow depth of field. Usually this is used to isolate a subject by causing most other elements in the scene to be blurred.
Sequence	a series of shots (or scenes) that relate to each other.
Shelf life	the length of time a product may be stored without deteriorating.
Shot	a picture; or a single run of a motion-picture camera.
Shutter	blades, a curtain, a plate, or some other movable cover in a camera which controls the time during which light reaches the film.
Sidelighting	light striking the subject from the side relative to the position of the camera; produces shadows and highlights to create modeling on the subject.
Simple camera	a camera that has few or no adjustments to be made by the picture-taker. Usually, simple cameras have only one size of lens opening and one or two shutter speeds and do not require focusing by the picture-taker.
Single-frame exposure	exposing the movie film one frame at a time. Each shot is a single frame. Single-frame exposure is commonly used for animation.
Single-system sound	the simultaneous recording of sound and picture on the same film during the original shooting.
Slide	a photographic transparency mounted for projection.

Slow motion	action on the screen slower than the action that was photographed. If the camera has a selection of frames per second at which it will operate, this effect can be created by exposing the film at a faster-than-normal rate (for example, at 24 or 32 frames per second rather that the normal 18 frames per second) and then projecting the film at the normal rate (18 frames per second).
Soft focus	produced by use of a special lens creating soft outlines where light areas tend to encroach on dark areas.
Soft lighting	lighting that is low or moderate in contrast.
Sound speed	speed at which professionally produced sound movies are generally exposed and projected (24 frames per second).
Splicer	a mechanical device used to join two pieces of film together. A splicer is essential for editing films.
Spotting	retouching a processed print with a pencil or brush (with watercolors or dyes) to eliminate spots left by dust or scratches on the negative.
Stain	discolored areas on film or paper, usually caused by contaminated developing solutions or by insufficient fixing, washing, or agitation.
Stop bath	an acid rinse, usually a weak solution of acetic acid, used as a second step when developing black and white film or paper. It stops development and makes the hypo last longer.
Tear sheet	samples of a photographer's work published in books, magazines, and newspapers.
Telephoto lens	a lens that makes a subject appear larger on film than does a normal lens at the same camera-to-subject distance. A telephoto lens has a longer focal length and narrower field of view than a normal lens.
Test strip	method of calculating exposure in printing by trial and error.
Thin negative	a negative that is underexposed or underdeveloped (or both). A thin negative appears less dense than a normal negative.
Through-the-lens focusing	viewing a scene to be photographed through the same lens that admits light to the film. Through-the-lens viewing, as in a single-lens reflex (SLR) camera, while focusing and composing a picture, eliminates parallax.

Time exposure	a comparatively long exposure made in seconds or minutes.
Time-lapse movie	a movie that shows in a few minutes or a few seconds events that take hours or even days to occur; accomplished by exposing single frames of film at fixed intervals.
Tint	shades of white in a finished print, controlled by the color of the paper, varying from white to buff.
Title	a scene that shows the name of a movie or slide show (usually placed at the beginning) or indicates what is coming next.
Tone	the degree of lightness or darkness in any given area of a print; also referred to as value. Cold tones (bluish) and warm tones (reddish) refer to the color of the image in both black and white and color photographs.
Toning	intensifying or changing the tone of a photographic print after processing. Solutions called toners are used to produce various shades of brown and blue.
Transparency	a positive photographic image on film, viewed or projected by transmitted light (light shining through film).
Tripod	a three-legged supporting stand used to hold the camera steady.
Tungsten light	light from regular room lamps and ceiling fixtures, not fluorescent.
Umbrella	a reflector or diffuser used to soften the light on a subject. Resembles an umbrella.
Underexposure	a condition in which too little light reaches the film producing a thin negative, a dark slide, or muddy-looking print.
Unipod	a one-legged support used to hold the camera steady.
Variable-contrast paper	photographic paper that provides different grades of contrast when exposed through special filters.
VCR	Video cassette recorder.
View camera	large format stand camera.
Viewfinder	(See **Finder**.)
Vignetting	printing the central area of a picture while shading the edge areas gradually into white.
Wetting agent	chemical which reduces surface tension of water.

White balance	mechanism adjusted on a video camera to obtain natural colors in a recording.
Wide-angle lens	a lens that has a shorter focal length and a wider field of view (includes more subject area) than a normal lens.
Zoom lens	a lens in which the focal length can be adjusted over a wide range, giving the photographer, in effect, lenses of many focal lengths.
Zoom shot	a shot in which the area of view decreases (or increases) and the relative size of the main subject increases (or decreases) while the shot is being made. This effect is achieved with the use of a zoom lens.

APPENDIX C

PHOTOGRAPHIC PROCESSES

TOOL AND EQUIPMENT LIST

Per Class of 24

* - Color Monitor or TV Set (1)

* - VCR (VHS) (1)

- Color Monitor or TV Set (1) (Used for editing videocassettes - may use view-finder in a camcorder)

- VCR (Format of video camera) (Used for editing videocassettes - may use the camera's video recorder)

* - 16 mm Movie Projector (1)

* - 35 mm Slide Projector (1)

- Audio Cassette Player (1)

* - Slide Projector

* - 12" x 12" Paper Trimmer

* - Cameras:

Single Lens Reflex (Body) (5)

Instant (1) (optional)

Disposable (1) (optional)

Range Finder (1) (optional)

Twin Lens Reflex (1) (optional)

Disc (1) (optional)

View (1) (optional)

Press (1) (optional)

Box (1) (optional)

* - Wall Chart:

Kodak Educational Materials "Photography - How It Works" (1)

* - Bulk Film Loader (2)

* - Lenses:

Wide (2)

Normal (5)

Telephoto (2)

Zoom (2)

* - Lens Hoods (optional)

* - Damaged Camera Parts:

Broken Filters

Dented Lens Rings

Dinged and Broken Equipment

* - Lens Filters:

UV, Skylight, 80A, Polarizing (2 each)

* - Flash -- AA Battery Size (2)

* - Back drop (1)

* - Backdrop Support (1)

* - Copy Stand (1)

* - Diffusers (2) or Frosted Windows

* - Reflectors (2)

* - Barn Doors (2)

* - Spot Meter (1)

* - Stroboscopic Electronic Flash (1)

* - Poly Contrast Filters (2)

* - Exposure Charts (2)

* - Linen Tester (1)

* - "Magna Sight" (1)

* - Light Stand (2)

* - Battery charger (2) (AA Size)

* - Slave Unit (1)

* - Umbrellas (1)

* - Light Meter (1) (One Light Meter W/Flash Meter Capability)

* - Tripod (2)

* - Cable and remote release (1)

* - Auto Winder (1) (optional)

* - Screens (1) (optional)

* - Prisms (1) (optional)

* - Camera Cases (optional)

* - Gadget Bags (optional)

* - Lens Cases (optional)

* - Film Canisters

* - Camera Straps

* - Extension Tubes (optional)

* - Reversing Rings (optional)

* - Bellows (optional)

* - Microscope Adapter (optional)

* - Close-up Lens (1)

* - Macro/Micro Lenses (1)

* - Storage Bottles and Jars (various sizes)

* - Funnels (3)

* - Photography Thermometer (Spirit)

* - Stirrers (4)

* - Tongs (4)

* - Graduates (2)

* - Rubber Gloves (4 pairs)

* - Cotton Gloves (4 pairs)

* - Safety Glasses (10 pairs)

* - Aprons (10)

* - Changing Bags (4)

* - Developing tank and reel (12 doubles)

* - Reel opener

* - Scissors (large)

* - Timer (one per enlarger)

* - Film clips (optional)

* - Stirring rods

* - Easel (1 per enlarger)

* - Enlarger (4) (2 Black and White and 2 Color or 2 Color-Heads)

* - Processing Trays (6)

* - Contact Printing Frame

* - Safelight (OC., Red 25) (1 each)

* - Gray Card (2)

* - Projection Print Scale (2)

* - Focusing Aid (2)

* - Negative Carrier (1-35 mm per enlarger) (1-2¼ per enlarger if using 120 or 220 format camera)

* - Squeegee (1)

* - Exposure Meter (optional)

* - Burning-in Card

* - Dodging Tools

* - Diffusion Screen

* - Large Deep Tray (1)

* - CC or CP Filters

* - Voltage Regulator (optional) (1)

* - Tube-Type Processor (1)

* - Dial Thermometer (optional) (1)

* - Light Table (2)

* - Palette (2)

* - Tacking Iron (2)

* - Hard Rubber Roller (4)

* - Rulers (12)

* - Squares (12)

* - Photo Albums

* - Dry-Mounting Press or Household Iron (1)

* - Projection Screen (1)

- Video Cameras

- Video Camera Accessories (Tripod, External Microphone, Movie Light, Character Generator)

- 8 mm, 16 mm, or Super 8 mm Movie Camera (1) (optional)

APPENDIX D

PHOTOGRAPHIC PROCESSES

SUPPLY LIST

Per Class of 24

* - Photographic Journals

* - OSHA Safety Data Sheets (1)

* - Lens Soft Brush (5)

* - Lens Tissue (Box of 100)

* - Compressed Air (2 Canisters)

* - Film (Exposed, non-useable)

* - Film (Various speeds and brands - use for demonstrations)

* - Bulk film (Various speeds - 100, 400) (3-100 foot rolls of each - some used in class demonstration, the remainder to be sold)

* - Reloadable Film Cassettes (24)

* - Film Developers

Acufine (2 gallons)

Agfa Lith Developer or Kodalith (2 gallons)

Kodak Dektol (6-10 gallons) or Kodak Ektaflo, Type 1 (1 cubitainer)

Kodak D-76 or T-Max Developer (10 gallon-working solution)

* - Film and Paper Stop

Kodak Indicator Stop Bath (2 pints)

* - Film Fixers

Edwal Anti-Scratch Hardener or Kodak Fixer Part B (Minimum amount)

Edwal Hypo Chek (2-3/4 ounces)

Kodak Fixer (10 to 15 gallons)

* - Film Miscellaneous Chemicals

Kodak Photo-Flo (8 ounces)

Kodak Chromium Intensifier (6 packages)

Kodak Farmers Reducer (6 packages)

Kodak Spotting Colors (2 sets)

Edwal No-Scratch (1 fluid ounce)

* - Paper Chemicals

Edwal Color Toners (1 bottle of each color desired)

Kodak Sepia Toner (6 packages)

Kodak Potassium Ferrocyanide (1 pound)

* - Stabilization Chemicals

Kodak A-10 Activator (3 quarts)

Kodak SB - 30 Stabilizer (3 quarts)

* - Negative Files

Plastic sleeves

Envelopes

Glassine envelopes

* - Masking Tape

* - Marking Pens (Permanent type)

* - Batteries (Assortment)

* - Adhesive (Paper)

* - Small Boxes (Shoe)

* - File Cards

* - Labels

* - Kodak Black and White Photographic Enlarging Papers

Polycontrast Rapid II RC (8 x 10 - 500 sheets)

Panalure II RC (8 x 10 - 100 sheets)

* - Kodak photographic Color Papers (Various sizes and surfaces)

(Current paper and chemical combination - to be used prior to expiration date)

* - Cotton Swabs

* - Small Artist Brushes

* - Slide Mounts (cardboard or plastic) (purchased per 100)

* - Mounting Tissue (per hundred sheet)

* - White Paper

* - Spray Adhesive (per canister)

* - Pressure Sensitive Adhesive

* - Double Sided Tape

* - Custom Frames

Wood

Metal

Plastic

* - Foam-core Matte Board

* - Various sizes of plywood or hardboard

* - Various colors of paint (quarts)

* - Various colors of stain (quarts)

* - Assortment of bulbs (used in studio lighting)

- Kodak Ektaflex PCT Products (optional)

Ektaflex Printmaker, Model 8

Ektaflex PCT Negative Film, or

Ektaflex PCT Reversal Film

Ektaflex PCT Paper

Ektaflex PCT Activator

Kodak 13 Safelight Filter, use 7½ - watt bulb (use with negative film only) (1 or 2)

- 4" x 6" Index Cards (1000)

- Videocassettes - 30 and 60 minute (6 each)
- Movie Camera Color Sound Film (5 cartridges) (optional)

APPENDIX E

PHOTOGRAPHIC PROCESSES

BIBLIOGRAPHY

Recommended Text

Walker, Richard J., and Walker, Robert E. Exploring Photography. South Holland, Illinois: The Goodheart - Willcox Company, Inc., 1983.

Suggested Texts

Hayes, Paul W., and Worton, Scott M. Essentials of Photography. Encino, CA: Glencoe Publishing Company, 1985.

Morris, John. Guide to Photography. Peoria, Illinois: Bennett and McKnight Publishing Company, 1985.

Books

H P Books. H P Books Publishing, P.O. Box 5367, Tucson, Arizona 85703.

Editors of Eastman Kodak Company. Kodak Pocket Guide to Video. New York, NY: Simon & Schuster, 1987.

Editors of Eastman Kodak Company. The New Joy of Photography. Addison-Wesley Publishing Company, 1985.

Hedgecoe, John. The Photographer's Handbook, Second Edition. New York, NY: Alfred A. Knopf, Inc., 1982.

Cartwright, Steve R. Training with Video. White Plains, NY: Knowledge Industry Publications, 1986.

Periodicals

Darkroom Photography published 8 times per year (Jan./Feb., Mar./Apr., May/June, July/Aug., Sept., Oct., Nov., Dec.) by PMS Publishing, a division of TL Enterprises, INC., 29901 Agoura Rd., Agoura Hills, CA 91301. One year subscription is $18.00 (often discounted at $12.97) and single issues are $2.25.

Darkroom & Creative Camera Techniques published bi-mounthly by Preston Publications, Div. Preston Industries, Inc., 7800 Merrimac Ave., Niles, IL 60648. One year subscription is $12.00 and single issues are $3.00.

Outdoor Photographer published nine times per year by Werner & Werner Corp., subscription address is Box 3736, Excondido, CA 92025-9894. Yearly subscription rate is $21.95 (discounted to $14.95) and single issues are $2.95 each.

Photo District News published monthly except for May and November when one extra issue is printed per month. Visions Unlimited Corporation is the holder of copyright, with editorial offices located at 49 East 21st Street, New York, NY 10010. Subscription rates are $15.00 per year and single issues are $2.00 each.

Periodicals (continued)

PhotoGraphic published monthly by Petersen Publishing Company, 8490 Sunset Blvd., Los Angeles, CA 90028. Yearly subscriptions are $11.97 and single issues are $2.25.

Popular Photography published monthly by CBS Magazines, a division of CBS, Inc., at 3460 Wilshire Blvd., Los Angeles, CA 90016. One-year subscriptions are $11.97 and single issues are $2.25 each.

Modern Photography published monthly by ABC Leisure Magazines, a subsidiary of American Broadcasting Companies, Inc., 825 Seventh Avenue, New York, NY 10019. Yearly subscription rate is $13.98 and single issues are $2.50 each.

Shutterbug published monthly by Patch Communications, 407 S. Washington Avenue, PO Box F, Titusville, FL 32781. Subscriptions are $15.00 per year and single issues are $2.00 each.

Pamphlets

(Available for sale through the Eastman Kodak Company, Kodak Customer Service Pamphlets, Photo Information, Department 841, Rochester, New York 14650.)

- Picture Taking in 5 Minutes
- Some Questions and Answers About Camera Lenses
- Loading and Handling 35mm Cameras
- How To Set Your Adjustable Camera
- Kodak Black and White Films for General Picture Taking
- Kodak Color Films for Still Cameras
- Basic Developing, Printing, Enlarging in Black and White
- Basic Developing, Printing, Enlarging In Color
- Outline for Teaching a Course in Basic Moviemaking (optional)
- Questions and Answers About Kodak Super 8 Movie Films (optional)
- Getting the Most Out of Your 8mm Film: Rolls and Magazines (optional)
- Better Movies in Minutes (optional)
- Making a Movie (optional)
- Editing and Caring for Your Processed Film (optional)
- Kodak Movie Films (optional)

Slide and Movie Programs

(Available for sale or loan through Karol Media, Kodak Slide/Film Programs, 222 Riverview Drive, Wayne, New Jersey 07470.)

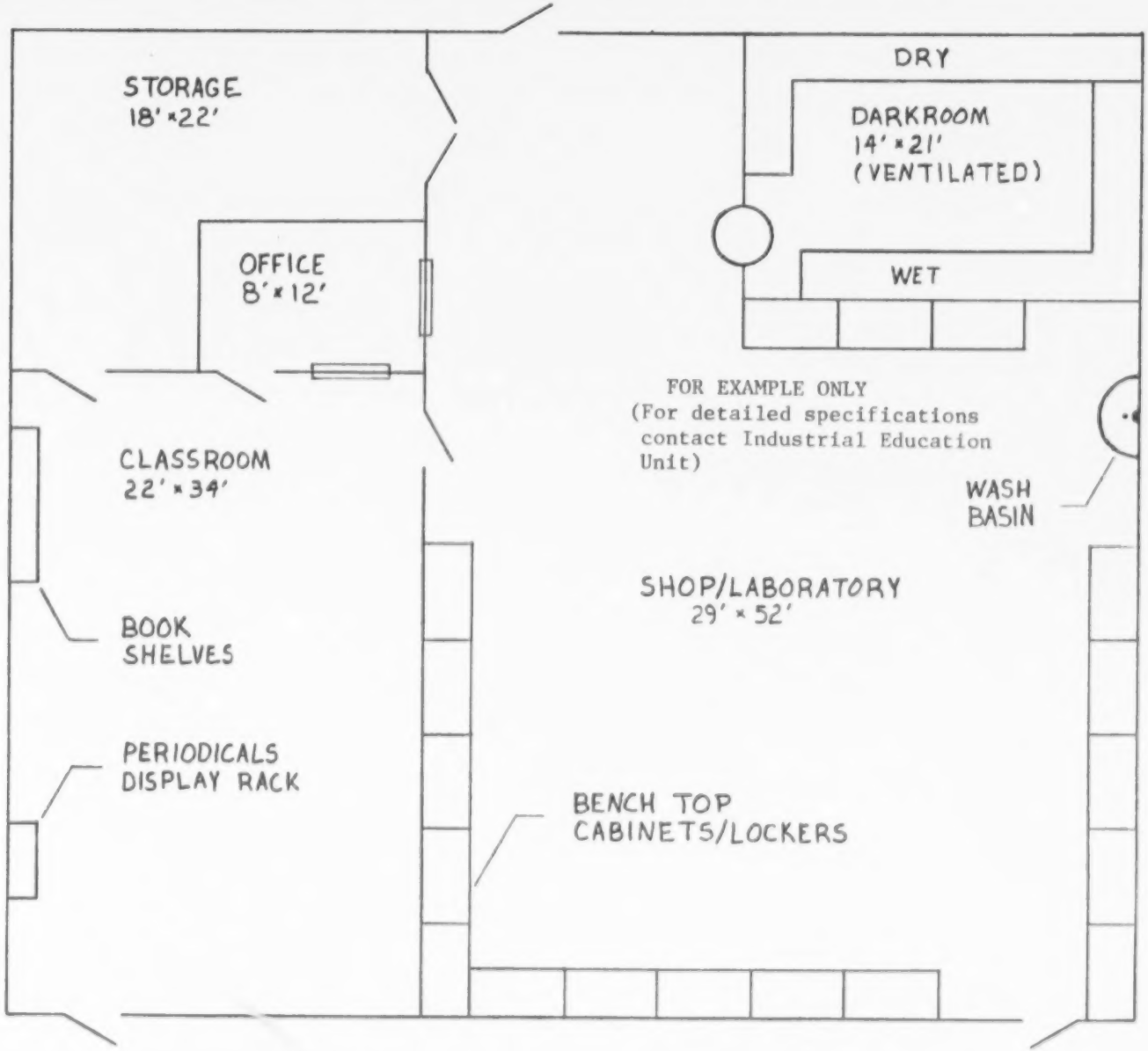
- Careers in Photography: An Expanding World
- The Way I See It
- The Camera: How It Works
- An Introduction
- Effective Use of Lenses
- Basic Picture-Taking Techniques
- The Film/Paper Story
- Film: How It Works
- Photographing People
- Secrets of Close-Up Photography
- Beginning Black and White Printing
- Advanced Black and White Printing
- Color Printing from Color Negatives

Video Cassettes

(Available for sale or exchange upon becoming a member of the Kodak Video Exchange, Department L-5, 174 Humbolt Street Rochester, New York 14610-1099.)

- Photographers and the Films They Choose
- The Art of Composition
- Prizewinning Photos--What Makes Them Click
- Imaginative Use of Filters
- Using Flash Effectively
- Action
- Home Guide to Videography, #3600. Wax Works, 325 East Third Street, Owensboro, Kentucky 42301. $24.00.

FOR EXAMPLE ONLY
(For detail specifications contact Industrial Education Unit)



SUGGESTED FACILITY LAYOUT FOR PHOTOGRAPHIC PROCESSES
52' x 60' = 3120 SQUARE FEET
SCALE: 1/8" = 1'